Rajan Vaish, Ph.D.

rvaish@cs.stanford.edu | www.cs.stanford.edu/~rvaish

INTERESTS

Human-Computer Interaction (HCI), Generative AI, Augmented Reality, Smart Glasses, Social and Communication Systems, Design Engineering, Collaboration, Crowdsourcing, Product, UX Research

EDUCATION

- **Stanford University, USA**   01/04/2016 – 08/31/2017
Postdoctoral Research Fellow
- **University of California at Santa Cruz, USA**   09/17/2011 – 12/10/2015
Ph.D., Computer Science (Fall'15)
M.S., Computer Science (Spring'15)
Advisor: Prof. James Davis
Thesis: Mobilizing the Citizen Crowd
Committee: James Davis, Michael Bernstein, Arnav Jhala
- **Jaypee University of Information Technology, India**   07/27/2005 - 05/29/2009
B. Tech., Computer Science & Engineering
Advisor: Prof. Nitin Chanderwal

WORK EXPERIENCE: INDUSTRY and ACADEMIA

- **Easel AI, Inc.**   02/14/2023 – Present
Co-founder and CEO
Easel AI is a Generative AI and social computing startup backed by Unusual Ventures, f7 Ventures, and Corazon Capital, whose Easel partners have co-founded and run iconic companies such as Nextdoor and OkCupid/Match Group and held senior leadership positions at companies like Meta and Tinder. Easel AI is also proudly supported by prominent angels including professors from Stanford.

- **Snap Research**   09/05/2017 – 09/01/2022
Senior Research Scientist
2850 Ocean Park Blvd, Santa Monica, CA 90405
Worked on human-computer interaction (HCI), augmented reality, smart glasses and social computing research at Snap, Inc.'s research group, led by Bobby Murphy (CTO and co-founder of Snap Inc). At Snap, I have mentored *30+ research interns* and my work has resulted in *10+ top-tier publications*, *50+ patent filings*, and public release of official Snapchat lenses that have led to the engagement of *millions of users*. In the HCI group, I led and managed the product development life cycle of several <u>research, UX and design engineering projects</u> — from ideation to design, development, deployment and mixed-methods evaluation — orchestrating a team of research engineers, scientists, designers, interns and product team partners. I drove several cross-team collaborations and regularly presented my work to several C-level and director-level executives. In particular, I have worked on the following initiatives:
    - **Wearable communication and AR experiences for friends**: I primarily led this research program that aimed to explore the future of AR communication and social experiences on smart glasses and smart phones. This program resulted in <u>over five systems</u>, ranging from synchronous AR calling and asynchronous AR messaging to ubiquitous computing and immersive memory reexperiencing systems. While working on this initiative, a key feature

was CEO approved and transitioned to the Spectacles product team. In addition to that, we shipped experimental concepts as <u>official Snapchat lenses</u>, that resulted in real world usage by Snapchatters around the world.

- **Collaborative and Social AR**: Explored the design space of collaborative and persistent AR. Our research contributed to the inaugural <u>launch</u> of shared AR experiences on Snapchat w/ LEGO during Snap Partners Summit 2021. [Press: <u>The Verge</u>]
- **Co-located AR Experiences, Storytelling and Games**: Explored the role of AR and IoT devices in supporting immersive playful and storytelling experiences. Helped launched a suite of ten Snapchat lenses and games, where we observed the playtime to be upto 13x more than the baseline (of Snapchat lenses) and recorded over 2 million impressions. <u>https://letsplayirl.com/</u>
- **Digital Handcrafting for Authentic and Meaningful Connections**: Explored the role of effortfulness and handcraftedness for meaningful communication and connection between close friends using AR.
- **Content Curation and Moderation Tools**: Curation and moderation of video-based content is a significantly harder problem than analyzing photos or text. Using novel interfaces and combining AI with crowd, our system was able to perform 3x faster than dedicated curators, and its output was of comparable quality. A version of the interface was later implemented and deployed in the internal content moderation tool, where the number of Snaps moderated per day increased by 22% with an accuracy of over 99%. I also helped create a tag-based interface for ad moderation, that was productized and shipped.
- **Social Computing Studies**: Explored user behavior on camera glasses usage, public sharing, colocated interactions and communication patterns during Covid-19. The design implications around the feedback loop to encourage user generated content (UGC) were CEO approved for productization and the paper written on public sharing research won a best paper honorable mention award at CHI'19.
- **Snap Creative Challenge**: Launched in 2020, Snap Creative Challenge awarded $100K to academic institutions to explore topics of societal interests using AR. I helped co-found this program and led the 2022 initiative, from realizing the topic to outreach and the selection process. To date, we have supported over 25 institutions from over 10 countries to work on topics such as future of storytelling in AR, future of co-located social AR and future of moments in AR. <u>https://www.snapcreativechallenge.com</u>
- **Design sprints, outreach, literature review, knowledge transfers and consulting product teams:** Collaborated with 10+ product teams ranging from Product Design and Spectacles team to Content and Growth on 30+ topics ranging from creative tools and ecosystems to UI/UX best practices and AR/drone interfaces. Key concepts were CEO approved for productization and realized on Snapchat app.

● **Stanford University, School of Engineering**   01/04/2016 – 09/01/2017
Postdoctoral Research Fellow
475 Via Ortega, Stanford, CA 94305
Worked on **Stanford Scholar** project to make research more accessible, by scaling collaborative research talk creation process - with Prof. Sharad Goel and Prof. Amin Saberi. The project produced over 100 videos in more than 10 languages, attracting over 300,000 views - <u>scholar.stanford.edu</u>

● **Stanford University, HCI Group, Computer Science**   03/25/13 – 12/10/15
Visiting PhD Student/Collaborator
353 Serra Mall, Stanford, CA 94305
Spent most of my grad school (8/13 total quarters) working with Prof. Michael Bernstein at Stanford HCI.

- o **Stanford Crowd Research:** Enabled global access to research while solving open-ended research problems in computer science. Worked with Prof. Michael Bernstein at Stanford, Prof. James Davis at UCSC, Prof. Sharad Goel at Stanford and Prof. Serge Belongie at Cornell Tech. Multiple crowd-authored papers published at ACM CSCW'17, ACM UIST'15/16, AAAI HCOMP'15. Participants worldwide have gone on to MIT, UC Berkeley, Stanford, Carnegie Mellon, Cornell, and more. The project proposal accepted for a $137,000 grant from HPI-Stanford HPDTRP 2016. aspiringresearchers.soe.ucsc.edu, crowdresearch.stanford.edu, wisdomofcrowds.stanford.edu.
- o **Twitch Crowdsourcing**: Worked on a home screen mobile application to enable quick micro contributions every time a person unlocks their phone: twitch.stanford.edu. The project proposal won Google Faculty Grant 2013 and a full paper got accepted at ACM CHI'14.

- ● **Microsoft Research Redmond**   06/29/2015 – 09/18/2015
  Research Intern
  14865 NE 36th St, Redmond, WA 98052
  Designed/developed a crowd-powered system to improve email tones - with Andrés Monroy-Hernández and Jaime Teevan. Also collaborated with Susan Dumais, Ece Kamar, Shamsi Iqbal and Saleema Amershi.

- ● **Palo Alto Research Center, Inc (PARC, a Xerox company)**   09/20/2014 – 06/26/2015
  Visiting Researcher
  3333 Coyote Hill Rd, Palo Alto, CA 94304
  Continued working on the Peerworthy project – with Victoria Bellotti, post my internship. Overall, spent one year at PARC as an intern and then as a visiting researcher.

- ● **Palo Alto Research Center, Inc (PARC, a Xerox company)**   06/23/2014 – 09/19/2014
  Research Intern
  3333 Coyote Hill Rd, Palo Alto, CA 94304
  Built an invitation referral system and ran a large-scale field-experiment to understand motivation of people for joining prosocial peer-to-peer systems - with Dr. Victoria Bellotti (Research Fellow).

- ● **Mobisocial, Inc/Stanford Mobisocial Computing Laboratory**   02/03/2014 – 06/12/2014
  Research Intern (part-time)
  184 Seminary Drive, Menlo Park, CA 94025
  Worked with Prof. Monica Lam and other co-founders to explore the aspects about viral marketing and growth strategies via crowdsourcing.

- ● **IBM T.J. Watson Research**   06/24/2013 – 09/20/2013
  Research Intern
  1 Rogers St, Cambridge, MA 02141
  Worked with the Collaborative User Experience group at IBM Research in Cambridge, MA; mentored by Dr. Michael Muller and Dr. Werner Geyer.   The project focused on exploring differences between internet and enterprise crowdfunding, via the ARC Angeles experiment data from the IBM Almaden Research trial.

- ● **Microsoft Research India**   06/25/2012 – 09/14/2012
  Research Intern
  "Vigyan", #9, Lavelle Road, Bengaluru, Karnataka 560001, India
  Worked with the Technology for Emerging Markets group at MSR India in Bangalore, India; mentored by Dr. Bill Thies and Dr. Ed Cutrell. The project (www.whodunitchallenge.com) focused on exploring the potential of crowdsourcing to solve real world problems in time-constrained situations on the lines of

DARPA Network Challenge. The India wide challenge was launched, and attracted countrywide participation. Involved in the *genesis, design and development* of the project; ran it from California.

- **Los Alamos National Laboratory (Dept. of Energy) – UC Santa Cruz**   04/02/2012 – 12/10/2015
  Graduate Student Researcher
  1156 High St, Santa Cruz, CA 95064
  Worked with LANL as part of my RAship (ISSDM); researching in the area of Human Assisted Computer Vision with Dr. Reid Porter. Project link: http://institute.lanl.gov/isti/issdm/projects/#302

- **Univ. of California Santa Cruz**   04/02/2012 – 12/10/2015
  Graduate Student Researcher
  1156 High St, Santa Cruz, CA 95064
  Worked on research projects in the area of crowdsourcing, HCI and ICTD with Prof. James Davis.
  o **3D+2DTV project**: Researched and conducted experiments to enable the 3D TV to be viewed by people with glasses (in 3D) and people without glasses (in 2D), at the same time. Paper accepted at the ACM Transaction on Graphics (ACM TOG) and a preliminary patent filed. http://graphics.soe.ucsc.edu/papers/3d2dtv/
  o **Employment creation in developing economies using crowdsourcing**: Understanding the pipeline, which connects requestors to workers through cybercafés. The project entered semi-finals at the UC Berkeley Global Social Venture Competition 2012 in collaboration with Crowdflower, Inc. Related work published at ACM DEV 2012 and IEEE GHTC 2012.
  o **Digitization of Health Records in Rural Villages**: Studied the health form digitization options through crowdsourcing, in collaboration with an NGO called HR4E. A poster paper of the same has been accepted at ACM DEV 2013 and full paper published at IEEE GHTC 2013.

- **Univ. of California Santa Cruz**   01/06/2012 – 03/22/2012
  Teaching Assistant – CMPS 80S
  1156 High St, Santa Cruz, CA 95064
  Teaching assistant for "From Software Innovation to Social Entrepreneurship", with Professor Suresh Lodha of the Computer Science department.

- **Accenture Technology Labs (R&D)**   11/09/2009 – 11/05/2010
  Associate Software Engineer
  4/1, IBC Knowledge Park, Bannerghatta Road, Bengaluru, Karnataka 560029, India
  Full time developer at Bangalore Labs, developed patentable applications in software engineering research and NLP in direct collaboration with Accenture Technology Labs, Silicon Valley, USA

- **OpenStreetMap Foundation (OSM)**   02/28/2010 – 08/16/2010
  Co-administrator for Google Summer of Code 2010, Online
  Co-administered the entire process to represent OSM at Google Summer of Code 2010 with Dr. Graham Jones. Reviewed over 30 proposals and mentored Vivek Kumar for an accessible direction tool project.

- **Google Summer of Code 2009 (GSoC)**   05/23/2009 – 08/25/2009
  Intern at OpenStreetMap Foundation, Online
  Developed an accessible maps project with direction tool and dynamic auditory mapping interface, using PHP and Python, with Open Routing Service API, http://code.google.com/p/openvoicenav

- **One Laptop per Child (OLPC)**   05/26/2008 – 08/18/2008
  Intern, Online

Developed "Atlas America" under the mentorship of Nestor Guerrero , a Geography teaching tool with Spanish content, displaying maps of America using Openlayers, GeoRSS, QGIS, Mapserver and PHP. http://code.google.com/p/olpc-atlasamerica/; http://www.jiit.ac.in/jiit/ic3/IC3_2008/winners.html

RESEARCH AND PUBLICATIONS [hci.st/googlescholar]

Journal Articles

- **Vaish, R**, Liao, V, Bellotti, V. "What's in It For Me? Self-Serving Versus Other-Oriented Framing in Messages Advocating Use of Prosocial Peer- to-Peer Services". *Elsevier International Journal of Human-Computer Studies 2017*.
- Scher, S, Liu, J, **Vaish, R**, Gunawardane, P, Davis, J. "3D+2DTV: 3D Displays with No Ghosting for Viewers without Glasses"*, ACM Transaction on Graphics (TOG) 2012*.
- Nitin, **Vaish, R**, Shrivastava, U. " On a Deadlock and Performance Analysis of ALBR and DAR Algorithm on X-Torus Topology by Optimal Utilization of Cross links and Minimal Lookups". *In The Journal of Supercomputing – Springer, December 2010. DOI: 10.1007/s11227-010-0524-x.*

Conference Papers

- Zhang, L; Kim, D; Cho, Y; Robinson, A; Tham, YJ; Vaish, R; Monroy-Hernandez, A. "Jigsaw: Authoring Immersive Storytelling Experiences with Augmented Reality and Internet of Things", ACM CHI 2024.
- Teng, Y; Courtien, C; Rios, D; Tseng, Y; Gibson, J; Aziz, M; Reyna, A; Vaish, R; Smith, B.A. "Help Supporters: Exploring the Design Space of Assistive Technologies to Support Face-to-Face Help Between Blind and Sighted Strangers", ACM CHI 2024.
- Leong, J; Teng, Y; Liu, X; Jun, H; Kratz, S; Tham, YJ; Monroy-Hernandez, A; Smith, B.A; Vaish, R. "Social Wormholes: Exploring Preferences and Opportunities for Distributed and Physically-Grounded Social Connections", ACM CSCW 2023.
- Reig, S; Cruz, E.P.; Powers, M; He, J; Chong, T; Tham, YJ; Kratz, S; Robinson, A; Smith, B.A **Vaish, R**; Monroy-Hernandez, A. "Supporting Piggybacked Co-Located Leisure Activities via Augmented Reality", ACM CHI 2023.
- Ritchie, J; Liu, Y; Kratz, S; Sra, M; Smith, B.A; Monroy-Hernandez; **Vaish, R**. "Memento Player: Shared Multi-Perspective Playback of Volumetrically-Captured Moments in Augmented Reality", ACM CHI EA 2023, Hamburg, Germany.
- Nicolas, M; Smith, B; **Vaish, R**. "Friendscope: Exploring In-the-Moment Experience Sharing on Camera Glasses via a Shared Camera", ACM CSCW 2022.
- Lee, K; Li, H; Wellyanto, R.M; Tham, YJ; Liu, F; Monroy-Hernandez, A; Smith, B.A; **Vaish, R**. "Exploring Immersive Interpersonal Communication via AR", ACM CSCW 2022.
- Surale, H; Tham, YJ; Smith, B.A; **Vaish, R**. "ARcall: Exploring Augmented Reality-Based Real-Time Communication", ACM AHs 2022, Munich, Germany.
- Zhang, L; Chen, T; Seow, O; Chong, T; Kratz, S; Tham, YJ; Monroy-Hernandez, A; **Vaish, R**; Liu, F. "Auggie: Encouraging Effortful Communication through Handcrafted Digital Experiences", CSCW 2022. *Best Paper Award.*
- Kratz, S; Monroy-Hernandez, A; **Vaish, R**. "What's Cooking? Olfactory Sensing Using Off-the-Shelf Components", ACM UIST 2022 Posters, Bend OR.
- Leong, J; Seow, O; Fang, C.M; Tang, B.J; **Vaish, R**; Maes, P. "Wemoji: Towards Designing Complementary Communication Systems in Augmented Reality", ACM UIST 2022 Posters, Bend OR.

- Dagan, E; Cardenas Gasca, A; Robinson, A; Noriega, A; Tham, YJ; **Vaish, R**; Monroy-Hernandez, A. "Project IRL: Playful Co-Located Interactions with Mobile Augmented Reality", ACM CSCW 2022.

- Liu, C; Smith, B; **Vaish, R**; Monroy-Hernandez, A. "Understanding the Role of Context in Creating Enjoyable Co-Located Interactions", ACM CSCW 2021.

- Yang, Q; Wang, W; Pierce, L; **Vaish, R**; Shi, X; Shah, N. "Online Communication Shifts in the Midst of the Covid-19 Pandemic: A Case Study on Snapchat", AAAI ICWSM 2021.

- Chen, Y., Monroy-Hernandez, A., Wehrman, I., Oney, S., Lasecki, W., **Vaish, R**. "Sifter: A Hybrid Workflow for Theme-based Video Curation at Scale", *ACM IMX 2020, Barcelona, Spain.*

- Guo, A., Canberk, I., Murphy, H., Monroy-Hernandez, A., **Vaish, R**. "Blocks: Collaborative and Persistent Augmented Reality Experiences", *ACM UbiComp 2019, London, UK.*

- Habib, H., Shah, N., **Vaish, R**. "Impact of Contextual Factors on Snapchat Public Sharing*", ACM CHI 2019, Glasgow, Scotland.* . *Best Paper Honorable Mention Award*.

- Bipat, T., Bos, M.W., **Vaish, R.**, Monroy-Hernandez, A. "Analyzing the use of camera glasses in the wild*", ACM CHI 2019, Glasgow, Scotland.*

- **Vaish, R**., Goyal, S., Saberi, A., Goel, S. "Creating Crowdsourced Research Talks at Scale", *TheWebConf 2018 (WWW 2018), Lyon, France.*

- **Vaish, R**., Gaikwad, S., Kovacs, G., Veit, A., Krishna, R., Ibarra, I.A., Simoiu, C., Wilber, M., Belongie, S., Goel, S., Davis, J., Bernstein, M. " Crowd Research: Open and Scalable University Laboratories", *ACM UIST 2017, Quebec City, Canada. Best Paper Honorable Mention Award*.

- Whiting, M., Gamage, D., Gilbee, A., Gaikwad, S., Goyal, S., Ballav, A., Majeti, D., Chhibber, N., Vargus, F., Moura, T., Richmond-Fuller, A., Chandrakanthan, V., Bayomi, G., Sarma, T., Dayan, Y., Ginzberg, A., Kambal, M., Milland, K., Parsi, S., Mullings, C., Orefice, H., Matin, S., Sehgal, V., Zhou, S., Sinha, A., Regino, J., **Vaish, R**., Bernstein, M. "Crowd Guilds: Worker-led Reputation and Feedback on Crowdsourcing Platforms". *ACM CSCW 2017, Portland, OR. Paper out of the HCI project within the Crowd Research Initiative, co-launched by me.*

- Gaikwad, S., Morina, D., Ginzberg, A., Mullings, C., Goyal, S., Diemert, C., Gamage, D., Whiting, M., Burton, M., Gilbee, A., Ziulkoski, K., Sehgal, V., Ballav, A., Niranga, S., Zhou, S., Lin, J., Regino, J., Chibber, N., Kristiano, L., Dhakal, D., Richmond-Fuller, A., Sharma, S., Mananova, K., Majeti, D., Dai, W., Matin, S., Chandrakanthan, V., Sarma, T., Sandeep, S., Milland, K., Stolzoff, A., Pandey, M., Agarwal, S., Purynova, V., Le, K., Nistala, R., **Vaish, R**., Bernstein, M. "Boomerang: Aligning Worker and Requester Incentives on Crowdsourcing Platforms". *ACM UIST 2016, Tokyo, Japan. Paper out of the HCI project within the Crowd Research Initiative, co-launched by me.*

- **Vaish, R**, Davis, J, Bernstein, M. "Crowdsourcing the Research Process", *Collective Intelligence 2015, Santa Clara, CA. Hosted by the University of Michigan, USA.*

- Vashistha, A, **Vaish, R**, Cutrell, E, Thies, W. "The Whodunit Challenge: Mobilizing the Crowd in India", *ACM INTERACT, Bamberg, Germany 2015*.

- Schuster, C, Zhang, B, **Vaish, R**, Thomas, J, Gomes, P, Davis, J. "RTI Compression for Mobile Devices", *IEEE ICIMu 2014, Kuala Lumpur, Malaysia*.

- **Vaish, R**, Wyngarden, K, Chen, J, Cheung, B, Bernstein, M. "Twitch Crowdsourcing: Crowd Contributions in Short Bursts of Time", *CHI'14, Toronto, Canada.*

- **Vaish, R**, Ishikawa, S, Liu, J, Berkey, S, Strong, P, Davis, J. "Digitization of Health Records in Rural Villages", *IEEE Global Humanitarian Technology Conference 2013, San Jose, CA.*

- Gawade, M, **Vaish, R**, Waihumbu, M, N, Davis, J. "Exploring employment opportunities through microtasks via cybercafés", *IEEE Global Humanitarian Technology Conference 2012*, Seattle, WA.

- **Vaish, R**, Srivastava, G, Vaish, R. "Innovative and Secured User Authentication Methods for Novice Visually Impaired users". In *Proceedings of the International Conference on Ultra Modern Telecommunications , ICUMT 2009, 12-14 October 2009, St. Petersburg, Russia. IEEE 2009.*

- Nitin, Chauhan, G, Gupta, A, Patel, A, Arora, A, S, Gupta, A, Shrivastava, U, **Vaish, R.** "A Single Tape Deterministic Turing Machine for Adaptive Deterministic Routing Algorithm Designed for Torus

Network". In *Proceedings of the 2009 International Conference on Foundations of Computer Science, FCS 2009, July 13-16, 2009, Las Vegas Nevada, USA. CSREA Press 2009, ISBN 1-60132-103-1*

- Nitin, **Vaish, R**, Sarin, S, Shrivastava, U. "Adaptive Load Balanced Routing Algorithm for X-Torus Topology". In *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications, PDPTA 2009, Las Vegas, Nevada, USA, July 13-17, 2009, 2 Volumes. CSREA Press 2009, ISBN 1-60132-123-6*
- Nitin, Chauhan, G, Verma, R, Srivastava, G, Shrivastava, U, **Vaish, R**."Single Tape Deterministic Turing Machine of Routing Algorithms Designed for Torus Network". In *Proceedings the 2009 International Conference on Foundations of Computer Science, FCS 2009, July 13-16, 2009, Las Vegas Nevada, USA. CSREA Press 2009, ISBN 1-60132-103-1*
- Chandra, S, Srivastava, U, **Vaish, R**, Dixit, S, Rana, M. "Improved AntNet: ACO routing algorithm in practice". In *Proceedings of the 11th IEEE International conference on Computer Modeling and Simulation (UKSim), Emmanuel College, University of Cambridge, England, 25–27 March 2009.*

Workshop, Work-in-Progress, Doctoral Consortium, Poster Papers, Abstracts and Talks

- [Advising] Domain Expert: Blurring Boundaries, Connecting Realities (BBCR) at UC Berkeley, 2022.
- [Talk] Lecture on Wearable Communication at Columbia University, 2022
- [Talk] Lecture on Wearable Communication at UC Berkeley, 1st Dec, 2021
- [Talk] Lecture on Crowd Research at Columbia University, 2021
- [Judging] University of Washington and UC San Diego, 2021
- [Talk] Lecture on Crowdsourcing and AR at Art Center College of Design Pasadena, 24th Mar, 2020
- [Talk] Lecture on Crowdsourcing at Virginia Tech CS department, 27th Nov, 2018
- [Talk] Lecture on Crowdsourcing at UCLA ECE department, 13th Nov, 2018
- [Interview] Survey report on "Crowdsourced Investigations, Open Investigations and Citizen Science Experiences" on the Stanford Crowd Research Initiative for Greenpeace International.
- Book chapter on "Crowd Research: Open and Scalable University Laboratories" in the new volume of "Design Thinking Research" within the Springer series "Understanding Innovation".
- **Vaish, R.** "Enabling Global Access and Mobilizing the Crowd for Complex, Open-ended Efforts"
    - o [Talk] Udacity, Mountain View, California, 18th April
    - o [Talk] Volkswagen of America, Electronics Research Lab, Belmont, California, 12th April
    - o [Talk] Snap Research, Venice, California, 10th April 2017
    - o [Talk] Adobe Research, San Francisco, California, 21st March 2017
    - o [Talk] FXPAL, Palo Alto, California, 13th March 2017
    - o [Talk] Bell Labs, Cambridge, England, 7th March 2017
- **Vaish, R**., Goel, S., Saberi, A. "Mobilizing the Crowd to Create an Open Repository of Research Talks", *ACM Learning at Scale, Cambridge, MA 2017.*
- **Vaish, R**., Monroy-Hernandez, A. "CrowdTone: Crowd-powered tone feedback and improvement system for emails", *TechReport, MSR-TR-2017-1, Microsoft Research.*
- Organisciak, P, **Vaish, R**. "Accomplishing low-attention microtasks", *Productivity Decomposed: Getting Big Things Done with Little Microtasks, Workshop at ACM CHI 2016, San Jose, CA.*
- **Vaish, R**, Saberi, A., Goel, S. "Stanford Scholar: Creating an Open Repository of Research Talks".
    - o [Talk] Stanford Social Algorithms Seminar 2017, 17th May, 2017
    - o [Talk] Stanford Postdoc Symposium 2016, 6th December, 2016
    - o [Talk] Stanford University, 23rd May, 2016
- **Vaish, R**, Bernstein, M, Davis, J. "The Aspiring Researcher Challenge: An Experiment in Massive Open Online Research (MOOR)".
    - o [Talk] HPI-Stanford HPDTRP Community Workshop, Stanford, CA, 6th February 2017
    - o [Jam] IFTF Positive Platforms Design Jam, Palo Alto, CA, 30th November 2016

- o [Talk] Spotify Research, Somerville, MA, 21st November 2016
- o [Poster] BayLearn event at SRI International, Menlo Park, CA, 30th September 2016
- o [Talk - Remote] Vellore Institute of Technology, India, 13th September 2016
- o [Poster] Crowd Research: HCI+Design Open House for CHI 2016, Stanford U., 8th May, 2016
- o [Poster] Daemo: HCI+Design Open House for CHI 2016, Stanford University, 8th May, 2016
- o [Talk] LeadGenius, Inc, Berkeley, CA, 1st March, 2016
- o [Talk] Berkeley Institute of Design, UC Berkeley, 09th Feb, 2016
- o [Talk][Poster] SRC/ISSDM Symposium with Los Alamos National Lab at UCSC, 13th Oct, 2015
- Crowdsourcing the Research Process crowd work-in-progress papers:
  - o Gaikwad, S., Chhibber, N., Sehgal, V., Ballav, A., Mullings, C., Nasser, A., Richmond-Fuller, A., Gilbee, A., Gamage, D., Whitting, M., Zhou, S., Matin, S., Niranga, S., Goyal, S., Majeti, D., Srinivas, P., Ginzberg, A., Mananova, K., Ziulkoski, K., Regino, J., Sarma, T., Sinha, A., Paul, A., Diemert, C., Murag, M., Dai, W., Pandey, M., **Vaish, R**., Bernstein, M. 2017. Prototype Tasks: Improving Crowdsourcing Results through Rapid, Iterative Task Design. *ACM HCOMP Poster 2017, Quebec City, Canada. Paper out of the Human-Computer Interaction project within the Crowd Research Initiative, co-launched by me.*
  - o Whiting, M., Gamage, D., Goyal, S., Gilbee, A., Majeti, D., Fuller, A., Salih, M., Sarma, T., Mathur, V., Pandey, M., Gaikwad, S., **Vaish, R**., and Bernstein, M. 2017. Designing a Constitution for a Self-Governing Crowdsourcing Marketplace. *Collective Intelligence 2017, New York City, USA. Paper out of the Human-Computer Interaction project within the Crowd Research Initiative, co-launched by me.*
  - o Gaikwad, S., Whitting, M., Gamage, D., Mullings, C., Majeti, D., Goyal, S., Gilbee, A., Chhibber, N., Ginzberg, A., Richmond-Fuller, A., Matin, S., Sehgal, V., Sarma, T., Nasser, A., Ballav, A., Regino, J., Zhou, S., Mananova, K., Srinivas, P., Ziulkoski, K., Dhakal, D., Stolzoff, A., Niranga, S., Salih, M., Sinha, A., **Vaish, R**., Bernstein, M. 2016. The Daemo Crowdsourcing Marketplace. *ACM CSCW Demo 2017, Portland, OR. Paper out of the Human-Computer Interaction project within the Crowd Research Initiative, co-launched by me.*
  - o Gaikwad, S., Morina, D., Nistala, R., Agarwal, M., Cossette, A., Bhanu, R., Savage, S., Narwal, V., Rajpal, K., Regino, J., Mithal, A., Ginzberg, A., Nath, A., R. Ziulkoski, K., Cossette, T., Gamage, D., Richmond-Fuller, A., Suzuki, R., Herrejon, J., V. Le, K., Flores-Saviaga, C., Thilakarathne, H., Gupta, K., Dai, W., Sastry, A., Goyal, S., Rajapakshe, T., Abolhassani, N., Xie, A., Reyes, A., Ingle, S., Jaramillo, V., Godinez, M., Angel, W., Godinez, M., Toxtli, C., Flores, J., Gupta, A., Sethia, V., Padilla, D., Milland, K., Setyadi, K., Wajirasena, N., Batagoda, M., Cruz, R., Damon, J., Nekkanti, D., Sarma, T., . Saleh, M., Gongora-Svartzman, G., Bateni, S., Toledo-Barrera, G., Pena, A., Compton, R., Aariff, D., Palacios, L., P. Ritter, M., ha K.K., Ni, Kay, A., Uhrmeister, J., Nistala, S., Esfahani, M., Bakiu, E., Diemert, C., Matsumoto, L., Singh, M., Jaramillo-Lopez, V., Patel, K., Krishna, R., Kovacs, G., **Vaish, R**., Bernstein, M. 2015. Daemo: a Self-Governed Crowdsourcing Marketplace. *ACM UIST 2015, Charlotte, NC. Paper out of the Human-Computer Interaction project within the Crowd Research Initiative, co-launched by me.*
  - o *Mysore, A. S., Yaligar, V., Ibarra, I., Simoiu, C., Goel, S., Arvind, R., Sumanth, C., Srikantan, A., Bhargav, HS., Pahadia, M., Dobha, T., Ahmed, A., Shankar, M., Agarwal, H., Agarwal, R., Anirudh-Kondaveeti, S., Arun-Gokhale, S., Attri, A., Chandra, A., Chilukur, Y., Dharmaji, S., Garg, D., Gupta, N., Gupta, P., Jacob, G., Jain, S., Joshi, S., Khajuria, T., Khillan, S., Konam, S., Kumar-Kolla , P., Loomba, S., Madan, R., Maharaja, A., Mathur, V., Munshi, B., Nawazish, M., Neehar-Kurukunda, V., Nirmal-Gavarraju, V., Parashar, S., Parikh, H., Paritala, A., Patil, A., Phatak, R., Pradhan, M., Ravichander, A., Sangeeth, K., Sankaranarayanan, S., Sehgal, V., Sheshan, A., Shibiraj, S., Singh, A., Singh, A., Sinha, P., Soni, P., Thomas, B., Varma-Dattada, K., Venkataraman, S., Verma, P., Yeluwar, I. "Investigating the 'Wisdom of Crowds' at Scale", ACM*

UIST'15, Charlotte. Request has been sent to ACM to add my name, which was missed earlier. Part of the Data Science project within the Crowd Research Initiative, co-launched by me.

- o Veit, A., Wilber, M., **Vaish, R**., Belongie, B., Davis, J., Anand, V., Aviral, A., Chakrabarty, P., Chandak, Y., Chaturvedi, S., Devaraj, C., Dhall, A., Dwivedi, U., Gupte, S., Sridhar, S., Paga, K., Pahuja, A., Raisinghani, A., Sharma, A., Sharma, S., Sinha, D., Thakkar, N., Vignesh, K., Verma, U., Abhishek, K., Agrawal, A., Aishwarya, A., Bhattacharjee, A., Dhanasekar, S., Gullapalli, V., Gupta, S., Chandana, G., Jain, K., Kapur, S., Kasula, M., Kumar, S., Kundaliya, P., Mathur, U., Mishra, A., Mudgal, A., Nadimpalli, A., Nihit, M., Periwal, A., Sagar, A., Shah, A., Sharma, V., Sharma, Y., Siddiqui, F., Singh, V., Abhinav, S., Yadav, A. "On Optimizing Human-Machine Task Assignments". *AAAI HCOMP 2015, San Diego, CA. Paper out of the Computer Vision project within the Crowd Research Initiative, co-launched by me.*

- **Vaish, R**, Monroy-Hernandez, A. "CrowdTone: Crowd-Powered Tone Improvement System for Emails".
  - o [Talk] Microsoft Research Redmond, 17th Sept, 2015

- **Vaish, R**, Davis, J, Bernstein, M. "Crowdsourced research: unlocking the doors to the ivory tower".
  - o [Talk] Stanford University, 27th May, 2015

- **Vaish, R**. "Social Computing: Combining Computers and Crowds".
  - o [Talk] Stanford Women in Computer Science's 'eCSpress yourself' event, 2nd May, 2015

- **Vaish, R**, Muller, M, Geyer, W, Soule, T. "Crowdfunding in the Enterprise and on the Internet: Workplace Users Emphasize Collaboration and Sociality", *Research Report RC25535, IBM Research 2015.*

- **Vaish, R**, Bernstein, M, Davis, J. "Crowdsourcing the Research Process", *AAAI HCOMP 2014, Pittsburgh, PA [Doctoral Consortium mentor: Prof. Elizabeth Gerber].*

- **Vaish, R**, Ishikawa, S, Lundquist, S, Porter, R, Davis, J. "Human Computation for Object Detection", *Tech Report UCSC-SOE-15-03, School of Engineering, University of California Santa Cruz.*

- **Vaish, R,** Organisciak, P, Hara, K, Bigham, J, Zhang, H. "Low-effort Crowdsourcing: leveraging peripheral attention for crowd work", *AAAI HCOMP 2014, Pittsburgh, PA [Work-in-progress and Demo].*

- **Vaish, R**, Liao, V, Bellotti, V, Du, H. "What's In It For Me? Impact of Motivational Framing in Referring Prosocial Peer-to-Peer Services to Contacts".
  - o [Talk] Palo Alto Research Center, 29th Oct, 2014
  - o [Poster] Palo Alto Research Center, 15th Aug, 2014

- **Vaish, R**. "Mobilizing the Citizen Crowd" [Thesis].
  - o [Talk] Accenture Technology Labs Silicon Valley, 16th June, 2014
  - o [Talk] CMPS 160 Guest Lecture at UC Santa Cruz, 16th Oct, 2014

- **Vaish, R**, Johnson, J, Bernstein, M, Davis, J. "Developing Interfaces for Labeling Object Relationships in Images using Expert Crowd".
  - o [Talk] SRC/ISSDM Symposium with Los Alamos National Lab at UC Santa Cruz, 15th Oct, 2014

- **Vaish, R**, Wyngarden, K, Cheung, B, Bernstein, M. "Twitch Crowdsourcing: Crowd Contributions in Short Bursts of Time".
  - o [Talk] Stanford University, 19th June, 2013.
  - o [Talk] MIT CSAIL, 16th August, 2013.
  - o [Talk] Stanford MobiSocial Retreat, 5th Oct, 2013. http://mobisocial.stanford.edu/retreat13/
  - o [Poster] Stanford MobiSocial Retreat, 5th Oct, 2013.
  - o [Poster] Univ. of California Santa Cruz Research Review Day, 17th Oct, 2013.

- **Vaish, R**, Muller, M, Geyer, W, Soule, T. "Crowdfunding in the Enterprise and on the Internet: Contrasting Motivations and Dynamics".
  - o [Talk] IBM Research Cambridge, MA 1st August, 2013.
  - o [Poster] IBM Research Cambridge, MA 1st August, 2013.
  - o [Panel] Overall project represented by Michael Muller at ACM CHI 2014 panel on crowdfunding.

- Gawade, M, **Vaish, R**, Waihumbu, M, N, Davis, J. "Exploring microwork opportunities through cybercafés", *ACM DEV 2012, Atlanta, GA.*

- o   [Poster] CITRIS Retreat UC Berkeley, 2nd October, 2013.
- **Vaish R,** Vaish, R. Abstract accepted on "Smart learning through smart phones". **MIT** *Technology Review India's "The Grand Challenges for Technologists in India 2010".*
- Agarwal, P. **Vaish, R**, Mohta, K. Abstract accepted on **"**Unified Communications: An answer to India's National Security". **MIT** *Technology Review India's The Grand Challenges for Technologists in India'10.*
- **Vaish, R**. Abstract accepted for talk on "OpenStreetMap and Python". *PyCon India'10, Bangalore.*
- **Vaish, R**. Talk on "Accessible maps for visually impaired". *Conference on Assistive Technology'09, hosted by National Association for the Blind and Rehabilitation Society for the Visually Impaired, Lucknow, India.*
- **Vaish**, R. Abstract accepted for talk on "OSM Directions tool for visually impaired". *State of the Map'09, Amsterdam, the Netherlands.*
- Nitin, **Vaish, R**, Srivastava, U, Rana, M. "Adaptive Deterministic Routing Algorithm for k-ary n-cub Torus Network". *7th Annual Workshop on Charm ++ and its Applications' 09, Parallel Programming Lab, University of Illinois at Urbana Champaign, USA.*

Patents (filed over 50 patents at Snap, public one's listed below)

- Smart Glasses with Outward-Facing Display, US Publication 20210390784
- Augmented Reality Auto Reactions, US Publication 20220086111
- Shared Control of a Virtual Object by Multiple Devices, US Publication 20220214856
- Augmented Reality Messenger System, 20220076492
- Graphical Marker Generation System for Synchronizing Users, 20220088477
- Qr Generation System for Augmented Reality Continuity, 20220101000
- Colocated Shared Augmented Reality Without Shared Backend, 20220075591
- Multi-user Ar Experience With Offline Synchronization, 20220288487
- Context Triggered Augmented Reality, 20220084295
- Shared Control of Camera Device by Multiple Devices, US Patent 10897564
- Augmented Reality based Communication between Multiple Users, US Publication 20210304450
- Context based Augmented Reality Communication, US Publication 20210304507
- Virtual Interaction Session to Facilitate Augmented Reality based Communication between Multiple Users, US Publication 20210306386
- Virtual Interaction Session to Facilitate Time Limited Augmented Reality based Communication between Multiple Users, US20210306387A1
- Conditional Modification of Augmented Reality Object, US Patent US20210233296A1.
- Simultaneous 2D and 3D Images on a Display, US Patent US20150062315A1; 2013.

AWARDS, ACHIEVEMENTS AND ACTIVITIES

- Best Paper Honorable mention award for the paper "Impact of Contextual Factors on Snapchat Public Sharing" published at ACM CHI 2019.
- Best Paper Honorable mention award for the paper "Crowd Research: Open and Scalable University Laboratories" published at ACM UIST 2017.
- Appointed as the recruitment chair of the highly selective ACM FCA (http://www.acm-fca.org/).
- Accepted as a member of the ACM Future of Computing Academy (ACM-FCA), 45 selected worldwide. Invited to attend ACM Turing Award Celebration conference, San Francisco, CA 2017.
- $137,000 grant co-PIed with Prof. Michael Bernstein on "Human-Centered Research at Crowd Scale", HPI– Stanford Hasso Plattner Design Thinking Research Program 2016.
- Recipient of the University of California Regents Fellowship 2011.

- Accepted as a "young researcher" (200 worldwide), and awarded NSF ORAU Fellowship at Heidelberg Laureate Forum, Germany, 2016.
- Received NSF fellowship to attend Collective Intelligence Conference in Santa Clara, CA 2015.
- Accepted at the AAAI HCOMP CrowdCamp 2013/14. Received fellowship to attend Doctoral Consortium from UT Austin at AAAI HCOMP 2014.
- Recipient of the "Indo-US Workshop on Large Scale Data Analytics and Intelligent Services" Travel Fellowship 2011. Sponsored by Indo-US Science & Technology Forum.
- HCI project (Daemo – crowd marketplace) within Crowd Research initiative related achievements. I co-launched Crowd Research Initiative at Stanford and UCSC.
    o Got into the finals of the Knights News Challenge'15 (top 20 of 1,000+).
    o Got represented at the European Dialogue on the Platform Economy event by the European Trade Union Institute and partners, Brussels.
    o Got represented at the AAAI HCOMP Industry Panel, Quebec City, Canada.
- Advanced into the second round of the United States Presidential Innovations Fellows program 2014 organized by the White House (in the crowdsourcing track).
- Department Nomination for Microsoft Research PhD Fellowship (3 nominations per department) 2013.
- Department Nomination for Google PhD Summit twice, 2013 and 2014.
- Twitch Crowdsourcing project proposal/Prof. Michael Bernstein received the Google Faculty Grant 2013.
- Finalist at Microsoft Imagine Cup Accessibility Awards'09. Top **2** teams from India (top 30 Worldwide).
- Co-founded "High-end Parallel Computing and Advanced Computer Architecture Lab" at JUIT.
- Mentored 7 Undergraduate Computer Science students and 1 PhD candidate for an extension of work on X-Torus topology in Interconnection Networks at Jaypee University IT (during my undergrad).
- "Atlas America" - the project with OLPC was awarded 1st prize by Prof. Sartaj Sahni (Chair, CS Dept, UFL, Gainesville, FL) at the International Conference of Contemporary Computing 2008, Noida, India.
- Participated in AOL/TopCoder Sensations Developer Challenge Idea Generation Contest'09 for an email interface proposal, for people with cognitive disabilities and/or visual impairment.
- Presented JUIT-IBA Project in front of Governor of Himachal Pradesh state of India in 2008.
- Secured an A.I.R (All India Rank) of 73 in NIFT Entrance Examination for Information Technology 2005.

PROFESSIONAL AND ACADEMIC SERVICES

Organizer

- Co-organizing CrowdCamp at *AAAI HCOMP 2017, Quebec City, Canada*.
- Co-organized the 1st Workshop on Human Computation in Digital Entertainment with MIT Media Lab at *AAAI AIIDE'12 Stanford, CA*. http://hcompai.soe.ucsc.edu

Program Committee and Leadership Roles

- Serving on the Program Committee at HCOMP Track of WebConf 2023.
- Serving on the Jury of CHI Interactivity 2023.
- Serving on the Program Committee at Snap Creative Challenge 2021-22.
- Served on the Program Committee at ACM UIST 2021, Virtual.
- Served on the Program Committee at AAAI HCOMP 2020, Hilversum, The Netherlands.
- Served as a Courses co-chair at CHI 2020, Honolulu, HI.
- Served on the Program Committee at Snap Creative Challenge at ACM IMX 2020, Barcelona, Spain.

- Served on the Program Committee at WebConf 2020 Crowdsourcing and Human Computation, Taiwan.
- Served on the Program Committee at AAAI 2020, New York, USA.
- Served on the Program Committee at the ACM IUI 2019, Los Angeles, CA.
- Served on the Program Committee at Workshop on User-Aware Conversational Agents, IUI 2019, L.A.
- Served as a Sponsorship co-chair at AAAI HCOMP 2019, Skamania Lodge, WA.
- Served on the Program Committee at ICTD 2019, Ahmedabad, India.
- Served on the Program Committee and as an Associate Chair at ACM CSCW 2019, TX, USA.
- Served on the Program Committee and as an Associate Chair at ACM CSCW 2018, NJ, USA.
- Served as the session chair for Crowdsourcing at ACM CSCW 2018, Jersey City, NJ, USA.
- Served on the Program Committee at AAAI HCOMP 2018, Zurich, Switzerland.
- Served on the Program Committee at ACM COMPASS 2018, Menlo Park, CA.
- Served on the Program Committee at ACM IUI 2018 Posters & Demos, Tokyo, Japan.
- Served on the International Advisory Committee for International Conferences 2017, JUIT, India.
- Served on the Program Committee at ACM IUI 2017, Limassol, Cyprus.
- Served as the session chair for Microtasks and Crowdsourcing at ACM CHI 2016, San Jose, CA.
- Served on the Program Committee at ACM CHI 2016 Workshop - Productivity Decomposed: Getting Big Things Done with Little Microtasks.
- Serving on the Program Committee at ICTD 2016, Ann Arbor, MI.
- Served on the Program Committee at ACM IUI 2016, Sonoma, CA.
- Served on the Program Committee and was a Volunteer Chair at ACM DEV 2014, San Jose, CA.
- Served on the Program Committee and as a reviewer at W4A 2013, 2014, 2015 co-located with WWW.
- Served as the Technical Program Committee member of conferences and workshops primarily in the area of Interconnection networks, systems and simulation, listing them next (year wise).
    - 2018: ISMS, UKSim
    - 2017: IEEE ICUMT, IEEE EMS, IEEE UKSim, IJSSST (associate editor)
    - 2016: IEEE ICUMT, ISMS, EUROSIM, CICSyN, EMS, AMC, UKSim, IJSSST (associate editor)
    - 2015: IEEE ICUMT, ISMS, AMS, CICSyN, CIMSim, EMS, UKSim
    - 2014: IEEE ICUMT, SIMS, UKSim, AIMS, ISMS, AMS, CICSyN
    - 2013: IEEE ISME, IEEE ICoICT, IEEE ISMS, IEEE EUROSIM, and AIMS.
    - 2012: IEEE CHUSER, IEEE SCOReD, IEEE ISBEIA, IEEE ISCAIE, IEEE ISCI, IEEE ISI, IEEE ISMS, IEEE AMS, IEEE CICSyN, IEEE EMS, IEEE ICUMT, IEEE UKSim.
    - 2011: IEEE ISMS, IEEE ICUMT, IEEE AMS, IEEE CICSyN, IEEE ICI, IEEE UKSim.
    - 2010: IEEE CICSyN, IEEE ICUMT, SDR-GCC.
    - 2009: IEEE ICUMT Workshop 40.
- Served on the Technical Program Committee of the *International Journal of Simulation: Systems, Science & Technology (Volume 12 and 13)* - A publication of the United Kingdom Simulation Society.

Reviewer

- Served as a reviewer at ICWSM 2020.
- Served as a reviewer at ACM COMPASS 2018.
- Served as a reviewer at ACM Transactions on Computer-Human Interaction (TOCHI) 2017/22.
- Served as a reviewer at International Journal of Human-Computer Studies – Elsevier 2016.
- Served as a reviewer at IEEE Transactions on Mobile Computing 2016.
- Served as a reviewer at ICTD 2016 full papers.
- Served as a reviewer at ACM CHI 2014/15/16/17/18/19/20/21 full papers and Work-in-progress.
- Served as a reviewer at ACM IUI 2016/17/18/19.
- Served as a reviewer at ACM CSCW 2015/16/18/19/20/21 full papers.
- Served as a reviewer at ACM UIST 2014/15/16/17/18/19/21 full papers.

- Served as a reviewer at ACM MobileHCI 2014/15/16/18 full papers.
- Served as a reviewer at AAAI HCOMP 2013/18/19.
- Served as an external reviewer at the ACM SIGCHI, for the CHI 2011, 2012 and 2013.

Other Services

- Serving as an advisor for UC Berkeley's Masters of Design studio course with topic being "Blurring Boundaries, Connecting Realities" in 2022 (host: Prof. Eric Paulos).
- Served as a judge for the University of Washington HCI Capstone showcase 2020 (w/ Katharina Reinecke); 2021 (w/ Amy Zhang).
- Served as a judge/reviewer for the Art Center College of Design AR final presentations 2020.
- Served as an advisor on a grant w/ Prof. Fabio Casati from the University of Trento, Italy.
- Served on the advisory board of two NSF grants, for two faculties at the University of Michigan and UCLA
- Served as a mentor for a Crowd Research Collective student at UW Undergraduate Symposium 2016.
- Served as a judge for science projects at Synopsys Science & Technology Championship Fair 2016.
- Served on the award selection committee of 'Ira and Kate Pohl Computers and Society Award' at UCSC.
- Served as a student volunteer at ACM UIST 2014, Honolulu, HI.
- Serving as an affiliate at the University of California Center for Collaborative Research for an Equitable California (UC CCREC) 2011- Present. http://ccrec.ucsc.edu/profile/rajan-vaish
- Serving as a Fedora Project Ambassador – India list, and contributing to open source, since August'08.

ENTREPRENEURIAL ACTIVITIES – I am passionate about real-world efforts and making research globally accessible.

- Member of Technology & Leadership team at Stanford Association of Industry-Minded Stanford Professionals - The Postdoc Link to Entrepreneurship and Industry. General member at Stanford BASES.
- Served as an event judge at Startup Weekend East Bay, California, 2016.
- Serving as an academic advisor for UNANIMOUS A.I. – a startup in the area of collective intelligence.
- Semi-finalists at the UC Berkeley Global Social Venture Competition (GSVC) 2012. The submission was based out of my research project and made in collaboration with Crowdflower, Inc.
- Participated at the YCombinator's Startup School 2013/14/16.
- Served as an advisor to MyFitSolution.com (startup by Rutgers' alums) and MyMusaic.com.
- Won "Spirit of Entrepreneurism Award" at an entrepreneurship competition – Opportunity Quest at the University of Utah, USA in 2009 for Mujuntu project, WikiStudios International (Top 10 of 400).
- Co-founded "LifeCode Health" project and participated at MIT$100K Entrepreneurship Competition with students from WSU and MIT. The project with a modified team set and ideas later won Wayne State University's E2 Challenge program and got into finals of Microsoft US Imagine Cup'2009 and 2010.

SELECTED DEVELOPMENT PROJECTS [github.com/rvaish**]**

- **AAAI HCOMP CrowdCamp'13**: Worked on "Waitsourcing, approaches to low effort crowdsourcing" with Jeff Bigham (CMU), Kotaro Hara (UMD), Peter Organisciak (UIUC), Haoqi Zhang (NW). http://crowdresearch.org/blog/?p=8320
- **Yahoo! Open Hack, Bangalore'10**: Co-developed two applications, with focus on accessibility, using Yahoo! Query Language, PayPal, Yahoo! Geo, and Windows 7 Speech Recognition APIs.
- **NASA World Wind add-on and plugin**: Developed a Point layer based add-on, displaying Top 50 Engineering Universities of World, with browsing capability to their respective CS departments. The plugin shows routes for given source to destination on Earth (coded in C#).

- **LiveGeo:** Co- developed an application to display comparative people density at a given place and time, using SimpleGeo APIs with Utkarsh Shrivastava from Georgia Tech. Featured in MIT Technology Review.
- **IBM's Great Mind Challenge 2007:** Co-developed an automated e-mail system used to send Greetings/Bulletins / Reminders within an organization using JSP/Servlets and Java.

SELECTED COURSEWORK

- Human-Computer Interaction (CMPE 231), Human Computation (CMPS 280H), Computing for Society (CMPS 290T), User Evaluation (CMPE 235), Data-Driven Discovery and Visualization (CMPS 263).

SELECTED PRESS

- The Verge: Snapchat gets augmented reality Legos you can build with a friend, May, 2020.
- The Stanford Daily: Crowdsourcing site seeks to predict efficacy of social distancing, April, 2020.
- The Verge: Snap Spectacles 3 Review: Reaching New Depths, November, 2019.
- Stanford News: A Stanford-led platform for crowdsourced research gives experience to global participants, October, 2017.
- WIRED: Amazon's Turker Crowd Has Had Enough, August 2017.
- The Atlantic: The Tragedy of the Digital Commons, June 2015.
- UC Santa Cruz SOE News: The Aspiring Researcher Challenge: An experiment in massive open online research, May 2015.
- Harvard's Journalist's Resource: What's new in digital and social media research: Crowdsourcing, analytics, Twitter patterns, product ratings, May, 2014.
- MIT Technology Review: The Next Frontier in Crowdsourcing: Your Smartphone, March, 2014.
- New Scientist: Crowdsourcing Twitch app could turn swipes into cash, Jan, 2014.
- Santa Cruz Sentinal/San Jose Mercury: Crowdsourcing with a swipe of your finger, Feb, 2014.
- Stanford The Dish Daily: Crowdswiping, Feb, 2014.
- Harvard Business Review:Can Internal Crowdfunding Help Companies Surface Their Best Ideas?, Sep, 13.
- MSN: 3-D TV faces uncertain future, August, 2013.
- Network World: IBM discovers its inner Kickstarter via enterprise crowdfunding, August, 2013.
- Extreme Tech: 3D+2D TV: A 3D display that's watchable without glasses, without ghosting, July, 2013.
- Times of India: Microsoft to test social tech in India, February, 2013.
- Microsoft Research: From Computing Research to Surprising Inventions (Peter Lee, corporate VP of MSR, launching the Whodunit? Challenge), January 2013.
- Yahoo! News: Microsoft's social 'Whodunit' competition to begin in India, January 2013.
- Silicon India: Microsoft India Announces A Nationwide Social Gaming Competition, January 2013.
- New Scientist: Social whodunnit competition launches in India, January 2013.

VOLUNTARY ACTIVITIES

- Volunteered at the MIT IDEAS Challenge 2011 as community manager and mentor.
- Gave basic computer training sessions at the School for the Blind, Lucknow, India during summer'09.
- Served as Super Admin and Technical Advisor at LetsGetThisRight.org for campaign websites during US Presidential Elections'08.
- United Nations Online Volunteer: Volunteered for the Borgen Project, Seattle and helped the organization in spreading word online and increasing Web Content in 2008.