ADITYA BHARADWAJ
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OBJECTIVE

Looking for full-time opportunity in the field of user-centered design and crowdsourcing

EDUCATION

Ph.D. in Computer Science, Virginia Tech, VA, USA **(GPA: 3.92/4.0)** **August 2015 – July 2020 (Expected)**
- Dissertation: *Mixed-initiative methods for following design guidelines in creative tasks*
- Advisors: Dr. Kurt Luther and Dr. T. M. Murali
- Relevant Coursework: Usability Engineering, Information Visualization, Deep Learning, Data Analytics, Urban Computing, Ethics and Professionalism in Data Science, and Data Mining in Large Networks

B.E. (Hons.) in Computer Science, BITS Pilani, India **(GPA: 8.74/10.0)** **July 2009 – May 2013**
- Relevant Coursework: Data Structures & Algorithm, Operating Systems, and Database Management Systems
- Served as Head of Career Development Center (2011-2012)

ACADEMIC RESEARCH

Virginia Tech, VA, USA *Graduate Research Assistant* **August 2015 – Present**
- *FludAI*: Investigating a human-in-the-loop collaborative approach for network visualization using novel deep learning techniques. Skills: *Reinforcement Learning, PyTorch* **2019 – Present**
- *Flud*: Developed a serious game that allows novice players to create meaningful visualization of biological networks with the help of automatically generated suggestions without any knowledge of algorithms and biology. Skills: *Crowd-sourcing, Iterative design, Prototyping, Graph Algorithms, Python, JavaScript, HTML* **2017 – 2019**
- *GraphSpace*: Designed and implemented an open-source web-based platform that fosters collaboration among network science research groups. Skills: *Data visualization, Design Tools, Python, JavaScript, HTML, CSS, PostgreSQL, Elasticsearch, Kibana, AWS* **2016 – 2017**
- *XtalkDB*: Developed a curation platform that allows biologists to record scientific literature evidence supporting crosstalk between pairs of signaling pathways. Skills: *NodeJS, MongoDB, and Heroku* **2015 – 2016**
- Conducted quantitative analysis as part of other lab research projects
- Mentored 8 undergraduate students with back-end and front-end development projects as part of Google Summer of Code program (2016-2019)

INDUSTRY EXPERIENCE

B12.io, New York City, NY, USA *Research Intern* **May 2018 – Aug 2018**
- Designed and implemented a mixed-initiative quality assurance system for B12's web-design ecosystem
- Analyzed web designers' usage using quantitative and qualitative research methods.
- Published a full paper in CHI 2019.

PayPal, Chennai, TN, India *Software Engineer Intern, SDE-1, and SDE-2* **June 2013 – May 2015**
- Experimented and developed payment prototypes using cutting-edge technologies like AR, Google Lens, etc.
- Implemented a scalable Marketplace payouts RESTful API for PayPal partners in MassPay product using Java.
- Implemented a web service for creating customized short URLs for personal payments using NodeJS.
- Reduced the development environment setup time by 2000% by developing an Eclipse based scaffolding tool that automatically generates a new RESTful API project.
- Developed a light weight payment platform – "PayPal-in-a-Box", optimized to run on low-level devices like Raspberry Pi to process multi-store payments.
- Awarded best intern award in 2013 for outstanding performance among a group of 25 interns.

TECHNICAL SKILLS

- Languages : Python, JavaScript, HTML, CSS, Latex, Java, C
- Data Analytics Tools : TensorFlow, PyTorch, Scikit-learn, Pandas, Keras, ElasticSearch, Kibana
- HCI Research Methods : Crowdsourcing, Interviewing, Heuristic evaluation, Usability testing, Wireframes, Personas, Prototyping, Surveys

PEER-REVIEWED CONFERENCE AND JOURNAL PAPERS

- **Bharadwaj, A**., Gwizdala, D., Kim, Y., Luther, K. and Murali, T.M. *Flud: a hybrid crowd-algorithm approach for visualizing biological networks*. ACM Transactions on Computer-Human Interaction. arXiv preprint arXiv:1908.07471.   **TOCHI 2019 (Under Review)**

- **Bharadwaj, A.**, Siangliulue, P., Marcus, A. and Luther, K. *Critter: Augmenting Creative Work with Dynamic Checklists, Automated Quality Assurance, and Contextual Reviewer Feedback*. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems. ACM. Paper 539, 12 pages. doi:10.1145/3290605.3300769. (Acceptance Rate = 24%)   **CHI 2019**

- Amiri, S. E., Adhikari, B., **Bharadwaj, A.**, and Prakash, B. A. (2018). NetGist: Learning to Generate Task-Based Network Summaries. 2018 IEEE International Conference on Data Mining (ICDM). doi:10.1109/icdm.2018.00101. (Acceptance Rate = 26%)   **ICDM 2018**

- Adhikari, B., Zhang, Y., Amiri, S. E., **Bharadwaj, A.**, and Prakash, B. A. *Propagation-Based Temporal Network Summarization*. IEEE Transactions on Knowledge and Data Engineering, 30(4), 729–742. doi:10.1109/tkde.2017.2776282. (Acceptance Rate = 30%)   **TKDE 2018**

- **Bharadwaj, A.**, Singh, D.P., Ritz, A., Tegge, A.N., Poirel, C.L., Kraikivski, P., Adames, N., Luther, K., Kale, S.D., Peccoud, J., Tyson, J.J., and Murali, T. M. *GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology*. Bioinformatics. 2017 Jun 13. (Impact Factor = 4.531)   **Bioinformatics Journal 2017**

- Adhikari, B., Zhang, Y., **Bharadwaj, A.**, and Prakash, B. A. *Condensing Temporal Networks using Propagation.* Proceedings of the 2017 SIAM International Conference on Data Mining, 417–425. doi:10.1137/1.9781611974973.47 (Acceptance Rate = 26%)   **ICDM 2017**

- Sam, S. A., Teel, J., Tegge, A. N., **Bharadwaj, A.**, and Murali, T. M. *XTalkDB: a database of signaling pathway crosstalk*. Nucleic Acids Research, 45(D1), D432–D439. doi:10.1093/nar/gkw1037. (Impact Factor = 11.561)
  Nucleic Acids Research Journal 2016

WORKSHOP PAPERS

- **Bharadwaj, A.**, Gwizdala, D., Yoonjin, K., Luther, K. and Murali, T. M. *Flud: a hybrid crowd-algorithm approach for visualizing biological networks*. Where is the Human? Bridging the Gap Between AI and HCI, Workshop at 2019 Conference on Human Factors in Computing Systems.   **CHI 2019**

- **Bharadwaj, A.**, Law, J., and Murali, T. M. *GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology*. International Conference on Systems Biology 2017.   **ICSB 2017**

SHORT PRESENTATIONS

- **Bharadwaj, A**., Gwizdala, D., Kim, Y., Luther, K. and Murali, T.M. *Flud: a hybrid crowd-algorithm approach for visualizing biological networks*. BioVis CoSI at Joint 27th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) and 18th European Conference on Computational Biology (ECCB). **BioVis/ISMB 2019**

- **Bharadwaj, A.**, Singh, D.P., Ritz, A., Tegge, A.N., Poirel, C.L., Kraikivski, P., Adames, N., Luther, K., Kale, S.D., Peccoud, J., Tyson, J.J., and Murali, T. M. *GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology*. 18th Annual Bioinformatics Open Source Conference (BOSC 2017) and Joint 25th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) and 16th European Conference on Computational Biology (ECCB).   **BOSC/ISMB 2017**

DOCTORAL SYMPOSIUM

- **Bharadwaj, A.** *Mixed-initiative methods for following design guidelines in creative tasks*. 7th AAAI Conference on Human Computation and Crowdsourcing 2019.   **HCOMP 2019**

PATENTS

- Vaidyanathan, S., Vohra, N., **Bharadwaj, A.,** and Goel, A., PayPal Inc, 2017. *Shared resource management system*. U.S. Patent Application 15/447,036.   **2017 (Pending)**

PROFESSIONAL ACTIVITIES

- Program Committee for the Web Conference (WWW) 2020
- Associate Chair on the Program Committee for the ACM CHI 2019 Late Breaking Work (LBW)