Aditya Bharadwaj

http://adbharadwaj.github.io | adb@vt.edu | +1-540-449-5525
1304 University City Blvd, Apt 5, Blacksburg, VA, USA 24060

EXPERIENCE

B12.IO HCI Research Intern
May 2018 – Aug 2018 | Blacksburg, VA

Designed and implemented a mixed-initiative system for ensuring quality and repeatability in creative tasks like designing websites. Designed, conducted and analyzed results from a user study with web-designers at B12.

PAYPAL | Software Engineer II & Software Engineer Intern
Jan 2013 – May 2015 | Chennai, India

- Worked with the mass payments team and implemented the Marketplace payouts solution for PayPal partners in Mass Pay API.
- Developed a web service for creating short URLs for personal payments.
- Skills: *Java, NodeJS, PHP, Junit, Maven, MySQL, SOAP, Mockito, Apache, Raspberry Pi, RESTful architecture, Web development, Responsive design*

GOOGLE SUMMER OF CODE | Mentor
Summer 2016, 2017, 2018, and 2019

- Mentored 6 undergraduate students towards successful open-source contribution to GraphSpace.

RESEARCH

CROWD LAB | HCI Research Assistant
Aug 2017 – Present | Blacksburg, VA

Flud: A game with purpose (Current)
- Designed and implemented a game to harness the power of crowdsourcing and AI to create simplified, biologically meaningful, mechanistic visualizations of biological networks.
- Skills: *Crowd-sourcing, Iterative design, Information visualization, Reinforcement learning, Simulated annealing, Markov process*

CSB LAB | Data Science Research Assistant
Aug 2015 – Present | Blacksburg, VA

GraphSpace
- Led the development of GraphSpace, an open-source web-based platform that fosters team science by allowing collaborating research groups to easily store, interact with, layout and share networks.
- Skills: *Data visualization, Python, Django, Javascript, HTML, CSS, PostgreSQL, Elasticsearch, Kibana*

XtalkNLP
- Built a supervised classifier that extracts evidence of crosstalk relationships from biomedical literature using state-of-the-art natural language processing techniques.
- Skills: *Convolutional neural network, Recurrent neural networks, Attention based models, Decision trees, SVM*

USABILITY ENGINEERING Course Project
Jan 2017 – May 2017 | Blacksburg, VA

Designed and implemented a new user onboarding experience for VT University Bookstore, which involved UX lifecycle tasks.

EDUCATION

VIRGINIA TECH
PhD, Computer Science
Aug 2015 - May 2020 (expected)
Cum. GPA: 3.94 / 4.0

BITS PILANI, INDIA
B.E. (Hons), Computer Science
Aug 2009 - June 2013
Cum. GPA: 8.74 / 10.0

SKILLS

PROGRAMMING
Over 10,000 lines:
Python • JavaScript • HTML • LaTeX
Over 5000 lines:
Java • CSS • PHP • SQL
Familiar:
C • iOS • Android • PHP

DATA ANALYTICS
TensorFlow • Keras • Scikit-learn
Pandas • Elasticsearch • Kibana

HCI RESEARCH METHODS
Crowdsourcing • Usability testing
Wireframes • Personas • Prototyping
Interviewing • Heuristic evaluation

COURSEWORK

GRADUATE
Deep Learning
Data Analytics
Data Mining in Large Networks
Information Visualization
Usability Engineering
Urban Computing
Theory of Algorithms
Computing the Brain

UNDERGRADUATE
Advanced Computer Networks
Operating Systems
Data Structures & Algorithms
Databases
Programming Languages

AWARDS

Amul Vidya Bhushan Award, 2009
Best Intern Project @ PayPal, 2013
1st, Productivity Hackathon, 2013
2nd, LabRats Innovation, 2013
1st, CIO Innovation Hackathon, 2014

PUBLICATIONS

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

2. Bharadwaj, A., Siangliulue, P., Marcus, A. and Luther, K. (2019). 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.

3. 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. (2017). GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology. Bioinformatics. 2017 Jun 13.

4. Sam, S. A., Teel, J., Tegge, A. N., Bharadwaj, A., & Murali, T. M. (2016). XTalkDB: a database of signaling pathway crosstalk. Nucleic Acids Research, 45(D1), D432–D439. doi:10.1093/nar/gkw1037.

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

6. Adhikari, B., Zhang, Y., Bharadwaj, A., & Prakash, B. A. (2017). Condensing Temporal Networks using Propagation. Proceedings of the 2017 SIAM International Conference on Data Mining, 417–425. doi:10.1137/1.9781611974973.47.

7. Amiri, S. E., Adhikari, B., Bharadwaj, A., & 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.

CONFERENCE TALKS

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

2. Bharadwaj, A., Siangliulue, P., Marcus, A. and Luther, K. (2019). Critter: Augmenting Creative Work with Dynamic Checklists, Automated Quality Assurance, and Contextual Reviewer Feedback. Conference on Human Factors in Computing Systems (CHI 2019).

3. 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. (2017). GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology. BOSC CoSI at 26th Conference on Intelligent Systems for Molecular Biology and 16th European Conference on Computational Biology (ISMB/ECCB 2017).

WORKSHOPS

1. Bharadwaj, A., Gwizdala, D., Yoonjin, K., Luther, K. and Murali, T. M. (2019). 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.

2. Bharadwaj, A., Law, J., and Murali, T. M. (2017). GraphSpace: Stimulating Interdisciplinary Collaborations in Network Biology. International Conference on Systems Biology 2017.

PATENTS

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