Anusri Pampari

CONTACT INFORMATION

Ph.D. Student,
Department of Computer Science
Stanford University

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RESEARCH INTERESTS

Regulatory Genomics, Machine Learning: Model interpretability, Model Robustness, Natural Language Processing, Application of machine learning to health-care and biology

EDUCATION

Stanford University
Ph.D., Computer Science, 2019-Ongoing

University of Illinois at Urbana-Champaign (UIUC) **3.9/4.0**
M.S., Computer Science, 2016-18

Indian Institute of Technology (IIT), Bombay, India **9.1/10.0**
B.Tech - M.Tech (Dual Degree), Electrical Engineering, 2011-16

PUBLICATIONS

EMNLP 2018: Empirical Methods in Natural Language Processing
"emrQA: A Large Corpus for Question Answering on Electronic Medical Records" [ACL link]
Authors: A. Pampari, P. Raghavan (IBM Research), J. Liang (IBM Research), J. Peng (UIUC)

Oral paper (acceptance rate: 10%)

Awarded the **Best Paper and Presentation Award** at the American Medical Informatics Association's (AMIA 2017) doctoral student consortium. Only masters student to be selected to present at the venue out of 6 graduate students.

- Proposed a framework to generate a large-scale QA dataset consisting of questions, answers and logical forms using existing resources and minimal expert input.
- Used this framework to generate a QA dataset for Electronic Medical Records.
- Characterized the dataset and evaluated various heuristic and neural QA baselines.

SIGIR 2019: ACM's Special Interest Group on Information Retrieval
"Help Me Search: Leveraging User-System Collaboration for Query Construction to Improve Accuracy for Difficult Queries" [ACM link]
Authors: S. Kuzi (UIUC), A. Narwekar (UIUC), A. Pampari, C. Zhai (UIUC)

- Implemented a novel framework where the search engine and the user work together to iteratively reformulate a input query. Method is shown to improve retrieval accuracy for difficult queries.

Journal Submission 2020: Academic Medicine
"Patient Experience Surveys Reveal Gender-Biased Descriptions of Care Providers" [under review]
Authors: A. Pampari*, D. Haynes* (OHSU), J. Zou (Stanford), T. Greiling, (OHSU)

- Computationally showed the gender bias in physician-patient interactions expressed through patient experience surveys

UAI 2021: Conference on Uncertainty in Artificial Intelligence
"Unsupervised Calibration under Covariate Shift" [in preperation - Arxiv link]
Authors: A. Pampari*, S. Ermon (Stanford)

- Introduced the problem of calibration under domain shift, and proposed an importance sampling based approach to address it.

AWARDS

Siebel Scholar: $35k awarded annually for academic excellence and demonstrated leadership to over 90 top students from 16 of the worlds leading graduate schools [Press release] *['18]*

Academic Awards

- Awarded top reviewer (top 30%) at International Conference on Machine Learning (ICML) *['20]*
- Stanford School of Engineering Fellowship for the first three quarters *['19]*
- Academic Excellence Award for ranking 2nd in dept's B.Tech - M.Tech program, IIT Bombay *['16]*
- Undergraduate Research Award for outstanding research contribution, IIT Bombay *['15]*
- Best Research Project Award out of 112 institute wide projects, IIT Bombay *['12]*

Leadership Awards

- Organizational Excellence Award for leading the dept's mentorship body, IIT Bombay *['16]*
- Outstanding Mentorship Honor out of 200 institute student mentors, IIT Bombay *['15]*

Travel Awards

- Tapia Conference Travel Grant: awarded to 3 graduate students from UIUC *['18]*
- Google Conference Travel Grant: awarded to 8 students from graduate schools in USA *['18]*

References

Anshul Kundaje, *Assistant Professor, Stanford University* — akundaje@stanford.edu *[PhD adviser]*
Jian Peng, *Assistant Professor, UIUC* — jianpeng@illinois.edu *[MS adviser]*
James Zou, *Assistant Professor, Stanford University* — jamesz@stanford.edu *[Research adviser]*
Preethi Raghavan, *Research Staff Member, IBM Research* — praghav@us.ibm.com *[Mentor]*
Madhav Desai, *Professor, IIT Bombay* — madhav@ee.iitb.ac.in *[BS adviser]*

Leadership

Head of Department Academic Mentorship Program, DAMP'15 *(Aug'15 - Aug'16)*

- Led a team of 20 mentors (interviewed 80 applicants) to help students facing difficulties with academic load - feedback showed 95% students showed significant grade improvements
- As a part of dept. committee, involved in restructuring undergraduate curriculum
- Enhanced faculty-student and counsellor-student interactions in the dept. by various initiatives
- Was awarded with Organizational Excellence Award by the EE department IIT Bombay

Insitute and Department Student Mentor *(Aug'14 - Aug'16)*

- Provided both personal and professional mentorship to around 15 women in engineering
- Was awarded with the Outstanding Mentorship Honor by IIT Bombay

Technical Innovator, MIT Health Technology Camp *(Jun'15 - Jul'15)*

- Worked closely with Ocularist's at L.V Prasad Eye institute
- Manufactured *'Hydro-Pro'*, a solution to help speedup prosthetic eye cleaning

Robotics Club Coordinator *(Aug'12 - Aug'13)*

- Part of a 8 member team which led all Robotics Club activities at the university
- Organized Technical General Championships and Inter-Hostel robotic events
- Imparted technical knowledge by organizing workshops, industrial visits and guest lectures

Work Experience

Data Shapley Optimization: Google Cloud AI, Sunnyvale, CA *(Aug'19 - Sept'19)*
Guide: James Zou: Stanford, Sercan Arik: Google AI

Worked on optimizing data shapley algorithm. Showed 10x speed improvements using algorithmic approximations.

Question-Answering: IBM Research, Cambridge, MA *(May'17 - Jul'17)*
Guide: Preethi Raghavan - NLP Researcher, Jennifer Liang - Medical Researcher

Worked on question-answering and semantic parsing, extended work to a submission at EMNLP

Mobile Computing for Image Processing: Rice University, Houston, Texas *(May'14 - Jul'14)*
Guides: Farinaz Koushanfar (ECE): UCSD, Azalia Mirhoseini: Google Brain

Explored the capability of using both mobile GPUs and CPUs (Snapdragon 800 mobile platform) to accelerate a tree matching pursuit algorithm for sparse approximation of image dictionaries.

Course Projects

- Graph Convolution Networks for Protein Interface Prediction | Bioinformatics | Prof. J. Peng
- Co-reference Resolution using RNNs | Machine Learning | Prof. D. Roth
- Triple Scoring Task, WSDM Cup | Data Mining | Prof. J. Han
- Indoor Localization using WiFi | Computer Vision | Prof. D. Hoiem
- An implementation survey on variants of RNN | Deep Learning | Prof. S. Lazebnik

Graduate Courses

Machine Learning: Machine Learning, Data Mining, Computer Vision (**A+ grade**), Cutting Edge Trends in Deep Learning, Bioinformatics, Advanced Information Retrieval, ML in Computational Biology (**A+ grade**)

High Performance Computing: Advanced Computing, High Performance Scientific Computing, VLSI CAD, Microprocessors, VLSI Design, Digital Systems, Systems Design, Processor Design

Teaching

Graduate Teaching Assistant: 5 semesters at UIUC, 2 semesters at IIT Bombay *(Aug'15 - Dec'18)*

- IIT Bombay: VLSI CAD (EE677) & Digital Electronics (EE224)
- UIUC: Bioinformatics (CS466), Intro. to Computing (CS101) & Discrete Mathematics (CS173) **[UIUC list of teachers ranked excellent]**

Senior Academic Mentor, Counselling Service, IIT Bombay: 4 semesters *(Aug'14 - May'16)*

- Conducted remedial classes for CS and EE courses for peers needing academic help

Services

ICML 2020 reviewer, Stanford Women in AI activities volunteer