Vihari Piratla

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Education

- **Indian Institute of Technology, Bombay** *June 2017 - Present*
  M.Tech. + Ph.D. Dual Degree, Department of Computer Science GPA: 9.75/10
  Advisors: Prof. Sunita Sarawagi and Prof. Soumen Chakrabarty

- **Indian Institute of Technology, Mandi** *2010 - 2014*
  B.Tech. Department of Computer Science GPA: 8.34/10

Research Interests

- Domain Robustness, Out-of-domain Generalization, Domain Transfer.
- **Research Focus:** Algorithms that generalize and adapt to new domain(s) with limited resources.

Publications

Conference

1. **V Piratla**, P Netrapalli, S Sarawagi "Focus on the Common Good: Group Distributional Robustness Follows" *Under review at International Conference on Learning Representations (ICLR) 2022*
2. **V Piratla**, S Chakrabarty, S Sarawagi "Active Assessment of Prediction Services as Accuracy Surface Over Attribute Combinations" *Neural Information Processing Systems (NeurIPS) 2021*.
3. A Nasery, S Thakur, **V Piratla**, A De, S Sarawagi "Training for the Future: A Simple Gradient Interpolation Loss to Generalize Along Time" *Neural Information Processing Systems (NeurIPS) 2021*.
4. S Shah, **V Piratla**, S Sarawagi, S Chakrabarti, "NLP Service APIs and Models for Efficient Registration of New Clients" *Findings at Empirical Methods in Natural Language Processing (EMNLP), 2020*.
5. **V Piratla**, P Netrapalli, S Sarawagi, "Efficient Domain Generalization via Common-Specific Low-Rank Decomposition" *International Conference on Machine Learning (ICML) 2020*.
6. **V Piratla**, S Sarawagi, S Chakrabarti, "Topic Sensitive Attention on Generic Corpora Corrects Sense Bias in Pretrained Embeddings" *Annual Meeting of the Association for Computational Linguistics (ACL) 2019 (Oral)*.
7. A Awasthi, S Sarawagi, R Goyal, S Ghosh, **V Piratla**, "Parallel iterative edit models for local sequence transduction" *Empirical Methods in Natural Language Processing (EMNLP), 2019*.
8. S Shankar*, **V Piratla***, S Chakrabarti, S Chaudhuri, P Jyothi, S Sarawagi, "Generalizing Across Domains via Cross-Gradient Training" *International Conference on Learning Representations (ICLR) 2018* [Shared first author].

Workshop

1. **V Piratla**, S Shankar, "Untapped Potential of Data Augmentation: A Domain Generalization Viewpoint" *ICML 2020 Workshop on Uncertainty & Robustness in Deep Learning*.

Scholastic Achievements

- I am one of the sixteen global recipients of Google PhD fellowship in Machine Learning in 2020.
- Google, Microsoft travel grants to present at ACL 2019; ICLR 2018 Travel Award.
- Department Rank one among 100 students in the M.Tech. computer science batch of 2019.
- I represented IIT Mandi, as a member of a team, in ACM International Collegiate Programming Contest 2012-13 Kharagpur and 2013-14 Kanpur regional.
- I was among the top students qualified from my region for the Indian National Mathematical Olympiad (INMO) after clearing Regional Mathematical Olympiad (RMO) '09 with a state rank of 26.
- I was part of a team that won the first-prize in Design Practicum course open-house in 2012 for the project "Touch Screen Projector" among 20 other teams.
- I received various scholarships that waived my tuition fees for five years during my schooling

Talks

- Research Challenges when scaling to millions of users through Prediction Service APIs [talk][slides]
  Presented at Trust ML Rising Star Spotlights Series
- Efficient Domain Generalization via Common-Specific Low-Rank Decomposition [talk][slides]
  Presented at ICML 2020 Conference

- Topic Sensitive Attention on Generic Corpora Corrects Sense Bias in Pretrained Embeddings. [talk][slides]
  Preseted at ACL, Florence

Development Experience

ePADD: Digital Archival Project Aug'14 – Feb'16
Stanford University Libraries

- ePADD is an open-source project to develop tools for collecting and processing of digital archives.
- Contributed tens of thousands of lines of code for smooth functioning of the application across various operating systems, browsers, compute hardware, and for processing archives that are several gigabytes large.

Other Academic Experience

- **Student Volunteer:** ICML 2020, ACL 2019
- **Reviewer:** ICLR 2022, Nurips 2021, ICML 2021, AAAI 2020, IEEE Transactions on Multimedia
- **Teaching Assistant:** Advanced Machine Learning, Digital Image Processing, Organization of Web Information.

Employment

- Research Intern Aug'19 - Nov '19
  Mentor: Dr. Praneeth Netrapalli *Microsft Research, India*
  Worked on algorithms that enable efficient transfer and generalization to new domains.
- Project Staff Oct'16 - July'17
  Mentor: Prof. Sunita Sarawagi *IIT Bombay*
  Contributed features to an internal complaint management system, such as text or image based automatic complaint categorization, and deduplication.
- Research Member Staff June'14 - Feb'16
  Mentor: Dr. Sudheendra Hangal *Amuse Labs*
  Worked on a digital archival project called ePADD and developed the following features. (1) A fine-grained entity recognizer robust to domain shifts from different archives using Binomial Mixture Models and Distant Supervision. (2) Cross document co-referencing and entity linking using context cues.
- Research Intern June'13 - Aug'13
  Mentor: Navneeth S *GE Global Research*
  Implemented software pertaining distortion correction and 3D registration of Ultrasound images.

Technical Skills

- **Programming & Scripting**: Java, Python, C, Shell Scripting, PERL
- **Technologies** : Spring, HTML, CSS, JavaScript, Lucene
- **Programming Libraries**: PyTorch, GPyTorch, Tensorflow, NumPy
- **Languages**: English, Telugu, Hindi

Extra Curricular Activities

- At IIT Bombay's PG sports events conducted in 2018, I won (or was part of a team that won) **Gold** in the 400m relay, **Silver** in 100m relay, **Bronze** in Volleyball, and finished fourth in the Long Jump.
- I finished 6th in the 2017 and 2018 PG sports 5km running event.
- Trekker with medium level expertise.

References

1. Prof. Sunita Sarawagi
2. Prof. Soumen Chakrabarti
3. Dr. Praneeth Netrapalli