Abhishek Bhatia

(917) 361 4869 • a.bhatia@columbia.edu • abhishekbhatia92 • abhigenie92

Education

Columbia University — **New York, NY, USA**
Master of Science in Computer Science, GPA: 3.8/4.0 — *May 2018*
Graduate Teaching Assistant: Neural Networks & Deep Learning and Machine Learning

University School of Information, Communication and Technology — **New Delhi, India**
Bachelor of Technology in Information Technology, First class with distinction — *May 2015*

Technical Skills

Programming: Python ▪ GoLang ▪ Java ▪ C++ ▪ C ▪ R ▪ Matlab ▪ NetLogo ▪ LaTeX

Libraries: TensorFlow ▪ Keras ▪ PyTorch ▪ Caffe ▪ Django ▪ Flask ▪ Twisted ▪ Docker

Cloud Platforms: Amazon Web Services ▪ Google Cloud

Experience

Apple — **Mountain View, CA, USA**
Software Engineer — *Nov 2019 – Present*
- Developed scanners in Python and GoLang which resulted in the identification of over hundred vulnerable hosts.

Omnee.io, Inc. — **Mountain View, CA, USA**
Machine Learning Software Engineer — *Oct 2018 – Oct 2019*
- Led development of a backend cross-device analytics pipeline in GoLang shared by 2 teams that vertically scaled to thousands of devices on a single machine.
- Presented analysis on how to identify and visualize similar patterns among IoT tracking devices using PCA. This also led to the development of new meaningful metrics.
- Solely implemented continuous integration and containerization across all company products, which significantly increased product deployment speed. Thereby, resulting in shipment of 3x more devices.
- Developed a mixture model to identify MAC randomization time periods for different vendors, resulting atleast 15% accuracy improvement across previously computed analytics.

Blei Lab, Columbia University — **New York, NY, USA**
Research Intern, Jaan Altosaar — *May 2017 – March 2018*
- Developed a proximity constraint for policy optimization that resulted in more stability and higher reward on various benchmark environments. Primary author for the Poster Publication at **NIPS 2017**. Link

IIT, Delhi — **New Delhi, India**
Project Assistant, Prof. Jayadeva — *Jan 2016 – Nov 2016*
- Developed low complexity classification framework for EEG signals, by minimizing the VC dimension bound. The proposed approach generalizes better than SVMs with decreased error rates, and less than one-tenth of the number of support vectors.

IIIT, Delhi — **New Delhi, India**
Research Assistant, Prof. Sachit Butail — *Jun 2015 – Dec 2015*
- Built a model based on perceptual vision field in human crowds, to illustrate how queuing tendency reduces for crowds with wider vision field contrary to the original belief. Talk in SIAM Conference on Dynamical Systems, 2017. Link

Graduate Projects

Group Rating Decomposition as a Distribution over Users: Formalized a novel three-step process for decomposing group ratings into a composition of user archetypes using a Variational Auto-Encoder. The model implemented in Tensorflow was able to predict user ratings within one star of truth. Link

De(warp/nois)ing Images with Conditional GANs: Developed Conditional GAN in Keras for dewarping images. Analysis found why such approaches blur high spatial frequency while preserving low spatial components. Link

VideoStyle Transfer System: Designed the back-end engine using Amazon Web Services(EC2, SQS, SNS and S3). The application lets users stylize a video using Neural Style Transfer in CNNs. Link

Publications

- Proximity-constrained reinforcement learning. NIPS 2017 Workshop, NIPS 2017 Workshop, AABI. Link
- On the role of evangelism in consensus formation. Complex Adaptive Systems Modeling. Link
- A Hybrid Autonomic Computing-Based Approach to Distributed CSPs. MDPI Computers, 2015. Link
- Disk Scheduling using a Customized Discrete Firefly Algorithm. Cogent Eng. 2015. Link
- Genetically optimized ACO inspired PSO algorithm for DTNs. 3rd ICRITO, 2014. Link