Namit Juneja

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Research Experience

University at Buffalo Data Science Group *Jan 2021 - Present*
PhD Candidate, Department of Computer Science

• Developed a cost-adaptive Bayesian optimization technique that minimizes an objective function in as little compute cost as possible by dynamically adjusting the system configuration based on its compute load.

• Designed an algorithm for learning nonlinear low-dimensional representations from massive high-dimensional datasets, thereby facilitating scientific discovery.

• Designed a metric to enhance similarity computations for scientific morphology data by creating an intuitive graphical representation, improving data analysis and scientific discovery.

Stanford HCI Group *May 2015 - Aug 2016*
Undergraduate Student Researcher

Developed an open-governance model for crowdsourcing platforms to amplify trust between workers and requesters in the marketplace. The contributions lead to the publication of a research paper at UIST and other venues.

Work Experience

Data Scientist — Zeblok, *New York City* *May 2018 - Sept 2020*

• Developed statistical models for analysis of patient's gait, encompassing cadence, asymmetry, velocity, and more

• Developed machine learning algorithms utilizing foot plantar pressure measurement sensor data to accurately infer patient's muscle characteristics

Software Engineer — Knowlarity, *New Delhi* *Dec 2016 - May 2018*

•Utilized machine learning models to predict user behavior, by integrating real-time interactions and historical data in order to tailor user experience, resulting in ~30% reduction in daily support calls.

• Created data pipeline for large-scale ML model development using AWS Serverless architecture, DynamoDB and Scala

Sloopstream — Co-founder, *New Delhi* *June 2017 - July 2019*

Designed an award-winning retail device to analyze people's behavior in open spaces, successfully deployed in 30+ stores across New Delhi

Educatrium Ventures, — Software Engineer Intern, *Shanghai* *June 2016 - Aug 2016*

Developed an end to end testing framework for Chinese high school students that generates a personalized SAT curriculum based on their individual performance. Currently being used by over 200,000 students in China.

Publications

• "Graph-based Strategy for Establishing Morphology Similarity", ACM Conference on Scientific and Statistical Database Management, USA, 2017

• "Crowd Guilds: Worker-led Reputation and Feedback on Crowdsourcing Platforms", ACM Conference on Computer-Supported Cooperative Work And Social Computing, USA, 2017

• "Boomerang: Rebounding the Consequences of Reputation Feedback on Crowdsourcing Platforms", User Interface Software and Technology Symposium, Japan, 2016

Education

University at Buffalo, Buffalo —
Ph.D. - Computer Science
January 2021 - Present
Advisor: Dr. Varun Chandola

University at Buffalo, Buffalo —
M.S. - Computer Science
September 2018 - January 2020

VIT University, Vellore, India —
B.Tech. - Electronics & Communication
July 2013 - May 2017

Skills

Specialized
Machine learning, autoML, active learning, bayesian optimization, embeddings, clustering, deep learning

Statistics
Bayesian inference, density estimation, data analysis, visualization, gaussian process regression, uncertainty quantification

Software
Python, PyTorch, NumPy, OpenMP, MPI, CUDA, Slurm, SQL, unix, git, AWS, GCP, C++, Docker, Singularity

Teaching

Introduction to Machine Learning - TA - Spring 2024

Introduction to Computer Science - TA - Fall 2023

Awards & Honors

Winner - Bloomberg CodeCon at University at Buffalo, 2018

Chancellor's Special Achiever's Award at VIT University, 2016 & 2017

Hackathon Winner at HackMIT (2016), PennApps (2017 & 2018), AngelHack (2018) & UB ACM Hack (2020)

International Award for Young People by The Duke of Edinburgh's International Award Foundation, 2019