Chintan Shah

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EDUCATION

Northeastern University, Boston, MA   September 2018 - Present
Master of Science in Computer Science (**GPA: 4.0**)   Expected December 2020
Courses: Algorithms, PDP, Machine Learning, NLP, Causal Machine Learning, Advanced ML, Reinforcement Learning

University of Mumbai, Mumbai, India   June 2015
Bachelor of Engineering in Computer Science with Distinction

EXPERIENCE

Machine Learning Research Intern, PathAI, Boston, MA   June 2020 - September 2020
- Researched meta-learning approaches to improve out-of-distribution model generation performance **by 50%**
- Augmented deep learning pipelines to support higher-order gradients for bi-level optimization techniques.

Machine Learning Research Assistant, Northeastern University**,** Boston, MA   November 2019 - Present
   Problem: Locate the source of an epidemic (patient-zero or **P0**) over a network given a single snapshot of the network.
- Led the research of **"model-free"** graph neural network (GNN) architectures to identify P0 and achieved a **100x speed-up in inference time** and **improved accuracy by 20%** in comparison to current state-of-the-art methods.
- Identified the theoretical bounds on prediction accuracy and established the importance of early contact-tracing.
- Poster accepted at NetSCI 2020! Preprint available here: **paper**

Machine Learning Intern, Apprentice Health (YC 18), Boston, MA   May 2019 - December 2019
- Designed evolutionary algorithms for optimizing doctor schedules to **reduce patient wait-time by over 40%**.
- Developed a deep learning model to learn a **permutation-invariant representation** of the in-clinic state.
- Predicted expected patient wait in real-time and at scale improving **patient satisfaction scores by over 12%**.
- Slashed infrastructure **costs by 30%**, increased hardware **utilization to over 95%**, and **reduced model training time by 70%** by architecting high-throughput, distributed machine learning pipelines using Kubernetes on AWS.

Media.net**,** Mumbai, India
Senior Software Engineer, Machine Learning   June 2017 - June 2018
Led a team of 4 software engineers in an entrepreneurial environment to pitch, design, develop and then lead to completion product initiatives in the area of algorithmic revenue optimization, ad-text generation, automated campaign creation, time-series forecasting, anomaly detection, and streamlined high-throughput data pipelines.
- Researched and developed time-series forecasting systems for optimizing ad bids to **increase daily profit by 22%**
- Directed effort to architect horizontally-scalable microservices and set up continuous integration pipelines.
Software Engineer   June 2015 - June 2018
- **Reduce campaign creation and bidding time by 70%** by designing a novel contextual ad-generation system.
- Spearheaded development of new stream-processing architectures to **slash ingestion time by over 90%**

ADDITIONAL PROJECTS

Causal Reasoning for Reinforcement Learning Agents, Boston, MA   March 2020 - April 2020
- Demonstrated that any non-causal RL agent will lead to biased outcomes in the presence of a confounder.

Deep Semantic Code Search, Boston, MA   January 2019 - April 2019
Problem: Can we use deep learning to model the semantics of retrieving code segments given natural language queries?
- Outperformed benchmark scores by learning a joint embedding space for code and natural language queries.

TECHNICAL SKILLS

Programming Languages:	Python, Java, R, Kotlin, C++, C
Libraries:	PyTorch, Tensorflow, SKLearn, Numpy, Pandas, Matplotlib, Seaborn, Pyro, BNLearn
Other Technologies:	Docker, Kubernetes, AWS, Redis, Apache Kafka, Hive, Spark, PostgreSQL, MySQL