

Chintan Shah

- shah.ch@northeastern.edu • 857-399-7418 • Boston • <https://www.linkedin.com/in/chnsh> • Github: [chnsh](https://chnsh.me)
<https://chnsh.me>

EDUCATION

Northeastern University, Boston, MA September 2018 - Present
Master of Science in Computer Science (**GPA: 4.0**) Expected December 2020
Related courses: Algorithms, Program Design Paradigms, Machine Learning, NLP, Causality in Machine 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

- Applying the latest advances in deep learning literature to improve computational pathology image models.
- Applied meta-learning techniques to **eliminate** the out-of-distribution generalization performance gap.

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.
- Spearheaded research, development, and writing effort. **Submitted [paper](#) as first-author to NeurIPS 2020.**
- Poster accepted at [NetSCI 2020](#)! Awaiting NeurIPS results.

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 unfair 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