

Education

New York University, Courant Institute of Mathematical Sciences, New York

(September 2016 - May 2018)

Masters of Science in Computer Science GPA: 4.0/4.0

Relevant Coursework: Theoretical Machine Learning, Computer Vision, Heuristic Problem Solving, Search Engine Architecture, and more.

Indian Institute of Technology (IIT) Guwahati, Assam, India

(July 2010 – May 2014)

Bachelors of Technology in Mathematics & Computing CPI: 7.92/10.0

Relevant Coursework: Data structures and Algorithms, Probability, Statistics, Graph Theory, Stochastic Calculus, Monte-Carlo Simulation, and more.

Technical Skills

- Programming Languages,
 - Adept: Python, C, C++
 - Experienced: Java, JavaScript
- Operating Systems: Windows, Ubuntu, OSX
- Miscellaneous: Web Development, PyTorch, Lua Torch, TensorFlow, SQL(DBMS), bash scripting, Apache Thrift, and several other tools.

Experience

Imagen Technologies (Machine Learning Research Engineer Intern)

New York, New York

- Working on semi-supervised learning methods to detect and classify the status of body implants (September 2017 - Present)
- Converted their older platform written in Keras/Tensorflow to PyTorch to enable dynamic computation graphs.
- Deep generative adversarial models to remove casts from radiographs by learning a model of the noise added by casts

Tower Research Capital LLC (Core Software Engineering Intern)

New York, New York

Trading Network and Systems

(June 2017 – August 2017)

- Benchmarked and studied effects of Docker Containers on network latency with different self-customized host kernels.

Adobe Systems India (MTS-II, Core Products and Technologies)

NOIDA, India

Adobe Illustrator (AI) Team

(May 2014 – August 2016)

- Developed an algorithm for Snap to text which is *non-intrusive and scales with user-intention*.
- Integral part of the sub-team formed under Vineet Batra (Principal Computer Scientist) to investigate and evaluate new directions and ideas for Adobe Illustrator. This also entailed porting 28 years of legacy code to iOS and closely working with Adobe ATL researchers.
- Created a framework to Enable/Disable features in Adobe Illustrator on runtime basis facilitating faster development and Testing.
- Developed End-to-End features, for example: Rotational Snapping, Menu Configurator, Seamless Preference Synchronization, and more.
- Area Owner and Expert: Effects, Linked Assets, DXF/DWG (CAD) formats conversion, AI Library and AI Worker.

AforPrice LLC (Co-Founder)

Web Crawler/Scrapper

- Co-developed a multi-threaded scheduled task-based web crawler to collect price information for millions of commerce products.
- Respects robots' exclusion protocol, uses sitemaps to collect URLs, adaptive crawl pace.

Data-visualization tool

- Data visualization tool written in JavaScript.
- Interactively find patterns in price changes across different e-commerce websites in the same category of products.

PriceComparator

- Compare prices for a product across all e-retailers right there in the browser itself without opening any new tab.

Academic Projects

Reinforcement Learning via Asymmetric Self-Play

Prof. Reb Fergus

Asymmetric Self-Play by agents where one agent (Alice) proposes tasks, and the other (Bob) performs the given task. This Alice and Bob duo helps in faster training of agents leading convergence towards higher mean reward in the actual task.

Algorithmic Trading

Prof. Mehryar Mohri

Algorithms to predict bid-ask spread after a liquidity shock using the trade/quote prices from London Stock Exchange. Modelling was done as a composition of multiple sub-models based on Clustering and classification, Time-ticked modelling and finally regression using RFs.

Achievements

- Recipient of Fall 2017 NYU MS in Computer Science Fellowship for outstanding performance in a Master's Program.
- Part of NYU DaD team which ranked 23 out of 1972 teams in Kaggle Data Science Bowl 2017 – Lung Cancer Detection.
- Selected in the ACM-ICPC Amritapuri onsite regionals 2012 and 2013 (Team: divideby0).
- Among the top 253 out of 5000 students all over India to qualify for Indian National Informatics Olympiad 2009.
- Earned certificate of distinction in National Standard Examination in Chemistry and National Mathematics Olympiad.

Publications/Articles

- US Patent (Docket No. P6528-US) submitted on snapping line generation for text reactive to the user's mouse movements.
- Written an article on Apache Thrift published by the open source BSD magazine.