

Education

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

(September 2016 - May 2018)

Masters of Science in Computer Science

Relevant Coursework: Theoretical Machine Learning, Computer Vision, Programming Languages, Search Engine Architecture

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

(July 2010 – May 2014)

Bachelors of Technology in Mathematics & Computing

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

Technical Skills

- Programming Languages,
 - Adept: C, C++, Python
 - 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

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* (Filed US Patent).
- 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.

S&P Capital IQ (Software Developer Intern)

Hyderabad, India

Re-architecture of EDCA Production Grid

(May 2013 – July 2013)

- Load Testing and performance measure of old application to find application bottlenecks.
- Designed and implemented a new architecture (MVVM pattern), observed 800% performance increase.

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

Diabetic Retinopathy

Prof. Reb Fergus

Trained Deep Learning models to automate Diabetic Retinopathy screening using Torch in Lua. A full pipeline from image reading to inference was developed. An accuracy of 79.61% was achieved compared to benchmark model (prior) of 26.52%

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.

Bachelor thesis Project

Dr. Partha Sarathi Mandal

Devised self-stabilizing algorithms for a set of Autonomous, Anonymous mobile robots roaming on a plane to form a Uniform Circle based on stigmergy stimuli. Also, the "Minimum Perimeter Problem" was solved in which the robots had an additional property of being fat.

Achievements

- 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.

Activities

- Started AI-Learning Lab/Forum in Adobe Systems as part of Adobe Illustrator Team as a platform to share knowledge.
- Written an article on Apache Thrift published by the open source BSD magazine.
- Part of expert judges' panel at Incognito 2015, 2016 for various technical competitions held at Somerville School, NOIDA, India.
- Technical Secretary 2012 of MATRIX (Student Body Association) of Department of Mathematics, IIT Guwahati.
- Active member of the Dance and Choreography Club of IIT Guwahati. Participated in cultural fests of IIT Delhi, Guwahati and Kharagpur.