

EDUCATION

Master of Science, Computer Science

University of Southern California - Los Angeles, USA

August 2016 - May 2018

Current GPA: **4.0 / 4.0**

- Courses: Analysis of Algorithms, Foundations of Artificial Intelligence, Applied Natural Language Processing, Information Retrieval and Web Search Engines, Machine Learning (In Progress), Deep Learning and its Applications (In Progress).

Bachelor of Technology, Computer Engineering

Aligarh Muslim University - Aligarh, India

August 2011 - June 2015

Cumulative Performance Index: **9.58 / 10** (Rank 5)

TECHNICAL SKILLS

- **Programming experience:** C, C++, JAVA, JavaScript, Node.js, MATLAB, Python, HTML, CSS and JSP.
- **Technologies / Tools:** SQL, NoSQL (Aerospike, Redis and DynamoDB), Bash, Git, Vim, LaTeX, Spring (MVC), Lombok, Mockito, Web Servers based on Apache MINA, NGINX, Quartz Scheduler, Elasticsearch (Logstash and Kibana), Scikit-learn and Tensorflow.
- **Competitive Programming:** Solved hundreds of programming problems on Sphere Online Judge (SPOJ), Project Euler, LeetCode, HackerEarth, HackerRank, Google Code Jam, CodeChef, etc. <https://bitbucket.org/pratikvarshney/competitive-programming>

WORK EXPERIENCE

Software Development Engineering Intern

Amazon

May 2017 - August 2017

- **Debugging Console:** Developed a web application to aggregate data from dynamoDB tables, state machines and other background processing services and display their processing status along with debugging information to help troubleshooting these services.
- **Message Publisher:** Programmed a web tool to collect data from user and publish it to a message queue for further processing.

Software Engineer

Paytm (One97 Communications Ltd.)

June 2015 - July 2016

- **Pre-Auth / Capture flow:** Implemented Pre-Authorization and Capture flow for Credit Card transactions allowing customers to authorize payment and merchants to capture payment separately.
- **Message Translation Web Server:** Developed a real time financial message translation application capable of handling more than 1000 requests/second.
- **SQL Database to NoSQL Database Data Migration Application:** Made a multi-threaded application capable of migrating over 100,000 records in less than 10 seconds.
- **SQL Query Optimization:** Achieved up to 10 times speed up in querying data generated by over a million transactions per day.
- **Scheduler Application:** Developed report scheduling application which handled and delivered multiple reports with over 1,000,000 of records without choking the real time payment gateway transactions being catered by the same resources.
- **API Based Merchant On-boarding System:** Created an API based merchant on-boarding system to allow 3rd party merchant onboarding applications like Salesforce to integrate with Paytm.
- **Code Refactoring:** Refactored the existing code of a module to enforce Model-View-Controller Design Pattern.

PROJECTS

- **Doneth** (2017): Decentralized blockchain application to allow donating cryptocurrency to Refugees using Ethereum network. Built and pitched the idea during the hackathon (dAppathon) organized by BCG Digital Ventures and Dvolution. Truffle framework
- **Hindi News Categorization and Summarization** (2017): Developed an application which utilized deep neural networks to categorize and summarize news articles ([Report](#)). Python
- **AI Game Agent** (2016). Developed an AI Agent for 2-Player turn based game and a game server to allow competing 2 agents. C++
- **Computational modeling of decision making in Stem cells** (2015). GUI application to model 3D spatiotemporal dynamics of hierarchical cell division and lineage specification in stem cells ([Report](#)). C++, Java, MATLAB, Python
- **BioMetric Data Acquisition Application** (2014). GUI application for Face Detection/Extraction, Recognition and Fingerprint Detection/Extraction using OpenCV and Qt library. Used by Aligarh Muslim University for biometric data collection. C++, Qt
- **MultiTest and MOST Framework** (2014). Implemented a paper (by Oya Aran, et al.; "An incremental framework based on cross validation for estimating the architecture of a multilayer perceptron"; International journal of Pattern Recognition and Artificial Intelligence, Vol.23, No. 2 (2009), 159-190) and analysed its performance on credit card fraud dataset ([Report](#)). MATLAB
- **Projectinminds.com** (2014). In a team of 8, we developed a website (now defunct) to allow students to showcase their projects as well as get feedback / help from mentors and other students working in similar fields. HTML, CSS, JavaScript, SQL, C#, ASP.NET
- More at <https://pratikvarshney.github.io/> and <https://bitbucket.org/pratikvarshney>

ADDITIONAL EXPERIENCE AND AWARDS

- Won the "**LA Hacks Top 4 - 11**" award out of 150+ Teams in LA Hacks 2017 held at UCLA. (2017)
- Won the "**Most Viable Startup Hack**" award at TrojanHacks 2.0 held at University of Southern California. (2017)
- Awarded **1st prize** in Gang Wars (2-Player turn based game) AI Agent Competition against 61 agents held at USC. (2016)
- Winner of BlackBerry 10 App Challenge organized by Devworx. Won BlackBerry Z10 Smartphone and Playbook. (2013)