

EDUCATION

Master of Science, Computer Science

August 2016 - Dec 2017

University of Southern California - Los Angeles, USA

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 (In Progress).

Bachelor of Technology, Computer Engineering

August 2011 - June 2015

Aligarh Muslim University - Aligarh, India

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, Apache MINA, NGINX, Quartz Scheduler, Elasticsearch (Logstash and Kibana), Scikit-learn and Tensorflow.

WORK EXPERIENCE

SDE 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 queuing service for further processing.
- **API Clients:** Created client libraries to access databases, workflow services and other 3rd party service APIs.
- **Code Refactoring:** Moved repeated code from various modules to common libraries to improve code reusability and added test cases in these libraries to improve their code coverage from around 85% to nearly 95%.

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 per second.
- **SQL Database to NoSQL Database Data Migration Application:** Made a multi-threaded application capable of migrating over 10,000 records per second.
- **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.

PROJECTS

- **Doneth (2017):** Decentralized blockchain application to allow donating cryptocurrency to Refugees using Ethereum network. Built and pitched during 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).** 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 AMU for biometric data collection. C++, Qt
- **MOST Framework (2014).** Implemented "An incremental framework based on cross validation for estimating the architecture of a multilayer perceptron" (Oya Aran, et al.; 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
- More at <https://pratikvarshney.github.io/> and <https://bitbucket.org/pratikvarshney>

ADDITIONAL EXPERIENCE AND AWARDS

- Won the "**Best Use of NEC API**" award out of 200+ Teams in Cal Hacks 4.0 held at UC Berkeley. (2017)
- 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 Competition against 61 agents held at USC. (2016)
- Winner of BlackBerry 10 App Challenge organized by Devworx. Won BlackBerry Z10 Smartphone and Playbook. (2013)