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PRATIK VARSHNEY

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EDUCATION

Los Angeles, CA, USA	**University of Southern California**	**August 2016 - May 2018**

- **Master of Science, Computer Science**
- Relevant Courses: Analysis of Algorithms (Fall 2016), Foundations of Artificial Intelligence (Fall 2016), Applied Natural Language Processing (Spring 2017), Information Retrieval and Web Search Engines (Spring 2017).
- Current GPA: **4.0 / 4.0**

Aligarh, Uttar Pradesh, India	**Aligarh Muslim University**	**August 2011 - June 2015**

- **Bachelor of Technology, Computer Engineering**
- Cumulative Performance Index: **9.58 / 10** (Rank 5)

TECHNICAL SKILLS

- **Programming experience:** C, C++, JAVA, JavaScript, Node.js, MATLAB, Python, HTML, CSS and JSP.
- **Industry Level Experience:** SQL, NoSQL (Aerospike, Redis and DynamoDB), Bash scripts, Git, Vim, Spring (MVC) - JAVA Applications, Lombok, Mockito, Web Servers based on Apache MINA, NGINX, Quartz Scheduler and Elasticsearch (Logstash and Kibana).
- **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 - Present**

- **Message Publisher:** Programmed a component of a web tool to collect data from user and publish it to a message queuing service.
- **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.

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 on-boarding applications like Salesforce to integrate with Paytm.
- **Code Refactoring**: Refactored the existing code of a module to enforce Model-View-Controller Design Pattern.

PROJECTS

- **Hindi News Categorization and Summarization** (2017)**:** Developed an application which utilized deep neural networks to categorize and summarize news articles. 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++
- **Real Time Notification Application** (2016). Web based application to notify target users based on various categories. Built during Supply Chain Digital Transformation Hackathon (held at University of Southern California). JavaScript, HTML, CSS, PHP, SQL
- **Computational modeling of decision making in Stem cells** (2015). GUI application to analyse the life cycle of Stem, Transit Amplifying and Terminally Differentiated Cells in 3-dimensional space. 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. MATLAB
- 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)