

# Umang Desai

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## Summary

Hands on, versatile engineer with an eye for simplicity and elegance in the software I write; looking for full time opportunities. I recently achieved my Masters in Computer Science before which I was a software engineer for 4 years, working out of Silicon Valley.

## Education

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|---|-----------------------|
| <b>M.S Computer Science</b><br><i>George Mason University</i>                         | 2016-2018<br>GPA: 3.4 |
| <b>B.S Information Science and Technology</b><br><i>Pennsylvania State University</i> | 2008-2012<br>GPA: 3.0 |

*Coursework:* Operating Systems, Distributed Systems, Analysis of Algorithms, Advanced Database Systems, Software Testing, Program Design and Data Structures, Component Based Software Development, Software Modeling and Architecture, Mathematical Foundations of Computer Science.

## Skills

**Languages:** JAVA, C++, C, Python

**Frameworks/Environments:** Junit4.0, JSF, Apache Camel, XStream, log4j, AWS

**Operating Systems:** Linux, Windows, OSX

**Database Systems & Servers:** MS-SQL, MySQL, TOMCAT, Windows ISS

**IDEs & Version Control:** Eclipse, Netbeans, PyCharm, GIT, SVN

## Work Experience

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| <b>George Mason Univ. Department of Computer Science</b><br>Graduate Teaching Assistant (Software Engineering) | Aug 2017 - Current |
|--|--------------------|

- *Conducting lectures and presentations.*
- *Grading deliverables for a full scale SDLC project, assignments, presentation peer evaluations.*
- *Mentoring students on different stages of SDLC and conducting bi-weekly meetings for project review, enabling AGILE culture.*

|   |                     |
|---|---------------------|
| <b>Matreya.IO</b><br>Blockchain Developer | Jun 2017 – Jul 2017 |
|---|---------------------|

- Develop and review high level design for the BlockChain. Also, find possible implementation solutions for Proof of Space(PoS).
- Optimize Proof of Work algorithm for x86.
- Modify difficulty adjustment algorithm to DigiByte v3.0.
- Designed and tested unit tests for DAA and PoW algorithms.

## George Mason Univ. Department of Computer Science

Jan 2017 – May 2017

### Graduate Teaching Assistant (Object Oriented Programming)

- *Mentoring* undergraduates through office hours, teaching students of varying level of understanding the *concepts of Java Object Oriented Programming*.
- *Conducting lectures* and *programming labs*.
- *Grading* assignments, labs, projects.

## Fondo

Jan 2015 – Mar 2016

### Co-Founder

- *Social event discovery application to correlate user and events geospatial data* and indicate suitable local events for a user.
- Designing and developing backend, databases and data-models.
- Maintain, monitor and *review development* of the application and *manage project deadlines*.
- Actively involved in *software architecture and product development*.

## ESQ Business Services

Aug 2012 - Dec 2014

### Software Engineer

- Designed, developed and tested module to *monitor JVM* on a host by *extracting telemetry data* using *JAVA, MSSQL* and *JMX*. This was achieved via a 3 tier *client-server-data backend architecture*.
- Designed and modeled a database for the data extracted. Then *developed advanced filtering* across *multiple Mbeans* for retrieving these metrics for *bandwidth friendly data pipelines*.
- Configured frameworks like *XStream* for configuration files and models, *log4j* for logging.
- Designed, developed and tested module to *monitor Linux via the proc fs to analyze system performance and uptime*. This was achieved with *JAVA and MSSQL*
- Developed a *parsing framework for system proc files* with *configurable polling mechanisms*.

## Personal Projects

### Content Addressable Network

- Built a *scalable distributed hash table network* using *JAVA, RMI*. The idea is to help manage a large hash table over internet like scalability. This can also support distributed data storage.

### Operating System

- Operating systems fundamental development. Implemented OS concepts like *synchronization primitives, process creation, multi-processing, virtual memory*. Development was done using *C, gcc and vi*.

### NFL Fantasy League Software Model & Architecture

- Gathered *requirements* and built *use cases*. Use UML to design the *static/dynamic class structures, sequence diagrams, state machines*.

### Two-Phase Commit Transaction System

- A *distributed durable key/value store* which supports *two-phase commit protocol*. It is *scalable* in that it supports multiple clients being able to connect to the master and issue a stream of *get/put/del requests*.