SANDHYA CHANDRAMOHAN

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EDUCATION

UNIVERSITY OF CALIFORNIA, IRVINE	**Master of Computer Science**	CGPA: 3.33/4.00*	Expected: Dec 2019
INDIAN INSTITUTE OF TECHNOLOGY	**Bachelor of Technology**	CGPA: 8.07/10.00	Graduated: July 2014

EXPERIENCE

SENIOR MEMBER OF TECHNICAL STAFF, Capital Float   **May 2017 - Aug 2018**

- Developed *Amazon Pay EMI (India)*, for instant loans at Checkout on Amazon.com by Capital Float, used by millions daily
- Pioneered the Publish-Subscribe Design Pattern to scale the system, enabling it to support 10 times the existing users
- Implemented Distributed Locking using Redis to handle 100% of all race conditions in a multi-user web application
- Reduced deployment downtime by 100% adopting the Blue-Green deployment strategy and set up Continuous deployment using Jenkins CI/CD tool in a distributed systems environment
- Increased repayments by 50% by integrating a Payment Gateway with the Loan Management System (LMS)

MEMBER OF TECHNICAL STAFF, Capital Float   **May 2016 - May 2017**

- Engineered a thread-safe implementation, synchronizing critical operations with Mutex objects to enable 100% real-time processing of all money transactions via API
- Increased productivity by 3x and reduced Operations Expenditure by 55%, automating workflows with Crons & Schedulers
- Improved database performance by 30% and ensured 99.99% availability by setting up MySQL Master-Slave Replication
- Secured sensitive JSON RPC APIs with a combination of Symmetric AES and Asymmetric RSA Encryption algorithms

SOFTWARE DEVELOPER, Capital Float   **May 2015 - May 2016**

- Redesigned a legacy WPF application in the Singleton Object Oriented Design pattern to a multi-tier architecture RESTful Web Application following the MVC design pattern using ASP.NET Web API 2 and the WCF Framework
- Spearheaded the Unit of Work design pattern to carry out one business operation as one atomic transaction
- Ensured fast AGILE (SCRUM) development cycles and code robustness by integrating the NUnit Unit Testing Framework
- Led the integration of an ORM - PetaPoco to abstract away database specific SQL and protect against SQL Injection

PROJECTS

RDBMS ● An Implementation of a Relational Database Management System ● Repository   **Oct 2018 – Dec 2018**
Designed and developed a complete Relational Database Management System with optimized storage, index and query systems

- Implemented several key modules such as the File and Page Access Manager, Relational Manager and Query Engine
- Built an Indexing Component via a B+ Tree supporting range predicates, managing persistent indexes over unordered data

MINESWEEPER-BOT ● An AI Agent to play the Minesweeper Game ● Repository   **Nov 2018 – Dec 2018**
- Modelled a Minesweeper AI agent based on Constraint Satisfaction Problems and a Backtracking search algorithm
- Solved 60% of N Beginner worlds (8X8 10 Mines), 50% of Intermediate (16X16 40 Mines), 10% of Expert (16X30 99 Mines)

ROJI ● Decentralized Financial Inclusion Platform ● Repository   **Apr 2017 - May 2017**
Led the development of a platform for the 600 million strong informal work economy in India, through smart contracts in Solidity

- Built for scalability by using the Mapped Struct with Index design pattern to enable O(n) lookup of each object
- Implemented a Multi-Sig Escrow mechanism, holding the salary credited in Ether at an escrow contract address

FIN-MICRODATA-BOT ● Personal Finance Twitter Bot ● Repository   **Sep 2016 - Oct 2016**
- Created an intelligent Markov chain chat-bot in Python that tweets an individualized narrative of a person once every hour using Survey Microdata imported into Google BigQuery and effects human-like interactions

SKILLS

- **Languages: (Over 5000 lines)** Python, C#, C++, C, SQL, LINQ | **(Over 1000 lines)** Java, JavaScript, HTML, CSS
- **Frameworks/ Libraries: (Extensive)** ASP .NET, Web2Py | **(Comfortable)** Bootstrap, React.js
- **Other Tools/ Technologies: (Extensive)** Git, AWS, Azure, IIS Server | **(Comfortable)** Webpack, npm

COURSES

- CS 260P – Fundamentals of Algorithms
- CS 261P – Data Structures
- CS 271P – Artificial Intelligence

- CS 201P – Computer Security
- CS 222P – Principles of Data Management
- CS 274P – Neural Networks and Deep Learning

CERTIFICATIONS

CONSENSYS ACADEMY	**Blockchain Developer**	Grade: 93/100	Graduated: Sep 2018
SUN MICROSYSTEMS JAVA	**Java SE6 Developer**	Grade: Pass	Graduated: Jul 2011
ORACLE CERTIFIED	**Oracle Database 10g**	Grade: Pass	Graduated: Jul 2011

HACKATHONS

BLOCKCHAIN INDIA WEEK HACKATHON	**Runner-Up**	**2nd/15 teams**	**Apr 2017 - May 2017**
FINTEGRATE ZONE HACKATHON	**Runner-Up**	**2nd/10 teams**	**Feb 2017 - Mar 2017**

AWARDS

- Won the Capital Float Tech-Olympics, as a Core developer helping the team place 1st out of 10 teams **2016**
- Awarded the Founder's Institute Ecosystem Scholarship for entrepreneurial potential competing against 50 fellows **2016**
- Succeeded in the Indian National Civil Services Preliminary Exam falling in the top 1% of over 1 million candidates **2015**