RITWICK VERMA

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EDUCATION

Master of Computer Science   Irvine, California | Sep 2019 - expected Dec 2020
University of California Irvine
Courses: *Fundamentals of Algorithms, Intro to AI, Operating Systems, Computer Security, Machine Learning and Data Mining, Parallel and Distributed Computation, Data Structures*

Bachelor of Technology, *Computer Science & Engineering*   Chennai, India | July 2015 - May 2019
SRM Institute of Science and Technology
Courses: *Algorithm Design, Data structures, OOP using C++, Web programming, AI, ML, Java, Python, OS*

TECHNICAL SKILLS

Languages: *C++, C, Java, Python, JavaScript, Kotlin*
Technologies: *Android, MySQL, Django*
Interested domains: *Algorithms, Web backend, Game Development, Android Application Development*

EXPERIENCE

Shoelace Wireless Inc. | *Software Development Intern*   June 2020 – Sep 2020
- Conceptualized a tool for statistical recording of various radio technology metrics while performing speed test on them.
- Engineered a map based crowd density visualization app using MapBox. Used MVVM architecture where the repository makes API calls using Retrofit to receive data and populate model. Everything is stored in Room, an abstraction of SQLite.

Advanced Structures India | *Software Development Intern*   June - July 2018
- Extracted clients SQL data of different Django models linked by relations from the server and cataloged in excel sheets for internal documentation.

Bharat Heavy Electricals Limited | *Software Development Intern*   June - July 2017
- Created an advanced library management system for a model university using Java EE while designing the dynamic web pages using JSP, servlet, and SQL. Optimized the application for low latency operations achieving 2 milliseconds response times.

PROJECTS

ShutUp | *Android App (published)*   Nov 2016 - Aug 2017
- Implemented and designed an open-source gesture-based telephony control application in Java and Kotlin, published on play store licensed under GPLv3; more than 26000 downloads and 4.3 stars.
- Configured the application to enable the users to control the call state i.e. mute, end call, or answer calls with a wave of a hand. It also allowed users to schedule calls for a future time.

RPG Game | *SDL2, C++*   May 2020 - Aug 2020
- A 2D Role-Playing game made in C++ without using any game or physics engine. The game consists of an elaborate inventory and weapon system. Maps are loaded from XML files made in Tiled which are converted to in-game components.
- The game utilizes various core Object-Oriented concepts like multiple and multilevel inheritance, pointer based polymorphism using virtual functions and data abstraction to perform things like rectangle and line collisions, tile and sprite animations, dialogue trees and physics simulation.

Monster Sudoku Solver | *Intro to AI, Course Project*   Sept - Dec 2019
- Created a Monster Sudoku Solver as a Constraint Satisfaction Problem, implementing consistency checks, value selection heuristics, and variable selection heuristics. Random valid sudoku boards were tested against the solver for empirical analysis of the different algorithms.
- Forward Checking and Norvigs check was used to check consistency whereas Minimum Remaining Value and Least Constraining Value were used for variable selection and value selection respectively.

FlapPYball | *Python*   Dec 2018
- Designed and created a graphic based 2D soccer game made in PyGame where the players played as Flappy the bird. Simulated gravity, velocity, and collisions using extremely modular and organized code.