ALEXANDER D. PATEL

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Education

University of Minnesota Twin Cities *September 2017 - May 2020*
B.S. in Computer Science GPA: 3.57 / 4.00
Relevant Coursework: Advanced Algorithm's and Data Structures, Practice of Database Systems, Computational Genomics, Programing Graphics and Game Design, Intro to Artificial Intelligence, Advanced Programming Principles, Machine Architecture, Intro to Operating Systems, Program Design and Development, Computational Linear Algebra

Industry Experience

Collins Aerospace | Software Engineering I *June 2020 – December 2021*

- Added capability to listen for radio messages to an internal command line tool and GUI
- Adapted an algorithm from an old project to allow air radios to swap between ground radios
- Update and test code to meet new software requirements and specifications
- Review pull request other engineers commit to be integrated into current code base
- Participate in daily scrums and the Agile software development cycle
- Perform code base drops to classified labs and manage merge conflicts
- Held government security clearance
- Convert make files to Cmake

Certified Cirus Controls | Software Engineering Intern *January 2019 – December 2019*

- Designed and created a .NET WPF application with the MVVM design pattern to make the project easily extendable.
- Engineered software using the SuiteTalk API to upload quotes and associated items to the NetSuite ERP from the WPF application
- Adapted Delphi code into C #

Digital Forces | Software Development Intern *June 2018 – August 2018*

- Used GPIO to monitor changes of digital input on a Raspberry PI and log changes to Google Sheets
- Designed software to determine asphalt loading conditions using multiprocessing, I2C, and requests to simultaneously monitor a thermal sensor and upload the data to an IOT Database
- Presented solutions to latency issues, Researched IOT databases and license plate recognition software

Projects

Flocking Simulation | C++

- Created a 3D visualization of birds flocking with an open-source graphics library
- Made use of the Spatial Partitioning design pattern to improve performance

Traveling Salesmen | C++

- Created a genetic algorithm to determine the shortest path between n points, and experimentally modified constants to achieve a 90% accuracy in 2 second run time for 25 points.

Chess AI | Python

- Implemented a chess bot using a Monte Carlo tree search algorithm

Skills/Frameworks

Proficiency: Java, Python, C, C++, C#, P5, Processing, git, OCaml, WPF, Visual Studio, Bit Bucket, Jira/Confluence, OOP
Exposure: MATLAB, JavaScript, R, HTML / CSS, Subversion, SQL, Forms, .NET, Delphi, CMake, MinGfx, Make, Swift