Douglas Allen

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Education

- **University of Colorado Boulder** — Boulder, CO
  Bachelor of Science in Computer Science — *Aug. 2014 – Dec. 2017*

Experience

- **Lockheed Martin Space** — Littleton, CO
  Software Engineer — *Sept. 2018 - Present*
  - **Orion Capsule**: Tested code and created tools on all software based systems for NASA's Orion capsule scheduled to launch for Artemis 1 and 2. Simulated nominal, off-nominal, and abort scenarios to verify NASA requirements and reported back any potential flaws or defects found. Worked on tooling to better define what is a safety critical software defect. Discovered root cause of commonly occurring scripting issues and worked with multiple teams to resolve them.
  - **NASA Mission Operations**: Conducted bug reviews and oversaw patches for the following programs: MAVEN, Osiris-REx, MRO, Odyssey, Insight, and Juno. Notable patches include hazard mapping for Osiris-REx during its descent for sampling, MRO patch to receive and send back incoming signals for Perseverance, as well as helping MAVEN make better use of it's solar panels. Re-oriented company wide processes and procedures to make better use of the agile methodology
  - **GOES-R Satellites**: Reviewed and tested code on all software based systems for the following satellites: GLM, SUVI, and GeoCarb. Testing was done through different layers of simulations.
  - **Classified Projects**: Tested code and created tools for Lockheed Martin Special Programs
- **Evolved PCs** — Parker, CO
  Founder — *May 2010 - Aug 2014*
  - **Product Creation**: Built a small business focusing on creating PCs for clients specific needs, created the website from scratch using HTML, CSS, and PHP

Skills

- **Security Clearance**: Top Secret SCI
- **Languages**: Best languages in order: Python, JavaScript, C++, SQL, Java, Scala.
- **Operating Systems**: Best is GNU/Unix, extensive experience working with Windows CMD and PowerShell, adequate experience working with ARM processors such as Raspbery Pi and Nvidia Jetson, minor experience with MAC OS
- **Technologies**: AWS, VMware, React, Unity, Blender, Android Studio, Beautiful Soup, TensorFlow, OpenAI, ROS, OpenCV, IntelliJ, ThymeLeaf, JSON, REST, Visual Studio, MVC, Socket.io, Heroku, Docker, Jenkins, JIRA, CodeCollab, Git, Perforce

Projects

- **Robotic Mining**: CU Boulder's entry for NASA's Robotic Mining Competition, built the autonomous systems through C++ and Python on a Nvidia Jetson
- **NESio**: Web Application designed to use a main monitor as a game screen and phones connected to the same web page as controllers for the game. Written in JavaScript using Node.js and Socket.io
- **Quantitative Trading**: Stock trading scripts designed to work with Robinhood Api written in Python and Node.js using AWS
- **Data Processing and Visualization**: Designed a web application that took two different weather data sheets and concatenated them together to then create a visual representation. Written in Python and JavaScript using Plotly
- **Stock Score**: Website created to rate stocks based off current Sentiment from the website StockTwits and technical indicators. Written in Java using IntelliJ and Thymeleaf
- **BlocksAR**: Android game using Google's ARcore to create the classic Blocks game in Augmented Reality. Written in C using Android Studio and Unity.
- **VR Experiences**: Created 3 VR experiences/games for the HTC Vive. Written in C and built using Unity

Awards

- **The Leaps and Bounds Award** — Kennedy Space Center, FL
  NASA — *June 2018*
  - **NASA's Robotic Mining Competition**: Awarded to the most improved team over 50 different universities