

# Charles D Burnell

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## Education

Boise State University

2013-2018

- Bachelor of Science (Double Major) in Mathematics, and Computer Science

## Technical Skills

- Computer languages (Experienced): Java, Python, Sage
- Computer languages (Familiar) : R, Maple, SQL, C/C++
- CAD Software (Familiar): SolidWorks, OnShape
- Machine shop (Familiar): CNC Mill, Manual Mill

## Relevant Experience

Black Sage Technologies - Software Engineer 2

August 2019-March 2021

- Created machine learning models to help users quickly identify UAS threats.
- Designed classes to perform heuristic calculations on near real time data.
- Integrated pan tilt system into DefenseOS for cueing camera to potential targets.

Google Software Engineer - SWE Level 3

June 2018-August 2019

- Improved core service used by Google's contact center support system.
- Developed relevant APIs for external integration.

Google Intern - Google Chrome Site Isolation Team

May 2017-August 2017

- Improved the Google Chrome task manager to properly track network usage and process management.

First Robotics Mentor - Team 5871 The Chickadees

Augues 2016-Present

- Mentored Idaho's only all female first robotics team in computer science, holding seminars and train the team's computer science team.
- Supervised work in the machine shop, ensuring safe use of the equipment.

International Ground Vehicle Competition Team

May 2016-May 2017, September 2017 - Present

- Managed development as head computer science student for an autonomous sample collecting rover.
- Developed prototypes of vision, navigation, guidance, and control software using C++, Python, and OpenCV.

Ambient Sensors - Software Engineer

May 2017-Present

- Developed safety critical software for IoT prototypes.
- Debugged legacy code used on IoT platforms to finish projects and add features.

Teacher's Assistant, Boise State University

August 2015-May 2016

- Converted, documented, and maintained 29 cryptology programs from Maple to Sage.
- Taught classes of 20+ students on how to use the programs in Sage.
- Read, graded, and critiqued students' cryptographic programs.

Boise State Microgravity Team

August 2015-May 2016

- Helped design a float sample collection tool to be tested at NASA's Neutral Buoyancy Lab, April 2016, using SolidWorks.
- Spearheaded Quick Disconnect Mechanism and Sample Collection Box designs.
- Rapidly prototyped 6 different iterations of subsystems using 3d printers.

Elliptic Curve Research-Independent Study

August 2015-May 2016

- Discovered 11 integer sequences related to the Bachet elliptic curves over prime finite fields that are not in the Online Encyclopedia of Integer Sequences
- Presented "On Bachet's Equation" at the Boise Crypt Fall 2015 conference.

## Other Experience

Hospital Corpsman US Navy

2007-2011

United States, Japan and Philippines

- Treated patients, including over 200 wounded, in what became Walter Reed National Military Medical Center.
- Managed an inventory of over 10 million dollars of medical equipment.
- Taught Combat Life Saving/Tactical Combat Casualty Care to over 60 Marines and Corpsman.