

Graduate Systems Engineering Student at the University of Virginia, on track to graduate in May 2019. Two undergraduate degrees: Biomedical Engineering, Systems Information Engineering, along with an Applied Math minor. Work experience in industries including commercial aerospace, construction, finance and research.

## ***AREAS OF EXPERTISE***

- Systems and Biomedical Engineering
- Project Management
- Sales and Marketing
- Web Site Development
- Salesforce Administration
- Public Speaking
- Technical Due Diligence
- Coding, Simulation, Visualization
- Machine Learning, Decision Analyst
- Data and Monte Carlo Analysis
- Signal Analysis
- Optimization Algorithms
- 3D and Stochastic Modeling
- 3D Printing
- Part Design
- Circuit Construction and Analysis
- Laboratory Skills
- Microsoft Office

## ***Professional Overview***

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### **BOOZ ALLEN HAMILTON, Mclean, VA – Configuration Management Database Analyst      May 2017 to Present**

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Booz Allen Hamilton is a consulting firm that specializes in government contracts. The firm is most famous for its work in cyber security, providing for many departments of the U.S. government and Fortune 100 companies.

- **CMDB Maintenance:** Made heavy contributions to the data consistency within the Configurations Management Database
- **Data Quality Control:** Checked CMDB edits, filled in empty values, and edited false information.
- **Database Structure Analysis:** Performed a detailed analysis on the CMDB structure using data architecture principals.
- **Process document creation:** Created many documents to clearly communicate how to perform certain tasks for future analysts or CMDB users.
- **Template Creation:** Created functional templates for other employees to complete their tasks.
- **Process Automation and Improvement:** Created scripts and excel functions to automate updates, quality control, and consistency
- **Report Creation:** Used excel and ServiceNow functionality to make data visualizations and data summaries for other groups.
- **Demonstrations:** Regularly gave tutorials and presentations about the CMDB.

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### **SUMMIT SPACE CORPORATION, Centreville, VA – Engineer / Analysis      May 2017 to Present**

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Summit performs a technical due diligence role enabling financing of the world's largest spacecraft projects. The company currently has diligence responsibility for over \$20 B of space projects. Support Summit executive team with a variety of technical tasks including:

- **OneWeb:** Developed a Monte Carlo simulation to model project risks and estimate contingent equity requirements for the \$6 billion program.
- **Simulation Toolbox:** Created a collection of modeling and data analysis/machine learning routines to support project finance analysis.
- **Northstar:** Created a Visual Basic data visualization Excel routine to convert project risk data into a usable graphic.
- **Aireon:** Developed a Monte Carlo based spacecraft component failure model. The model was used to project satellite component failure rates to determine satellite constellation life. The analysis was key to closing a \$400 M loan deal.
- **Website Design:** Responsible for revising, updating and maintaining the company website.
- **Research and Development:** Responsible for creating an accurate and reliable deep neural network model for satellite quality classification.

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**PYPE INC, Chantilly VA - Intern****August 2016 to January 2017**

Pype Inc is a software startup in Northern Virginia. PYPE provides automated program management software for construction projects. PYPE dominates their construction software niche providing automated solutions to some of the largest construction projects and companies in the world. Clients include Clark, Balfour Beatty, Foulger-Pratt, and MCN. Supported a variety of tasks:

- **Salesforce.Com Administration:** Managed the PYPE Salesforce.com system including clientele, sales, and accounts. Managed permissions, accessibility, and clientele status.
- **Sales:** Identified greenfield customers. Created a cold calling script was successfully in establishing new customers. Created multiple social media mass marketing campaigns for Pype's clientele.
- **Website Design:** Made desired changes and updates to the Pype's website.

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**MTV, Remote - Intern****2015-2016**

Popular entertainment company has a collection of shows and music. Supported producer remotely promoting music and social media.

- **Social Media Management:** Promoted an artist's music on Facebook, LinkedIn, and Twitter.
- **Customer Outreach:** Live promotion of the artist's work.

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**Education****University of Virginia****September 2014 to May 2019**

- **Masters of Science in System Engineering,** University of Virginia, Charlottesville, VA 2019
- **Bachelors of Science in Systems and Information Engineering,** University of Virginia, Charlottesville, VA, 2018
- **Bachelors of Science in Biomedical Engineering,** University of Virginia, Charlottesville, VA, 2018
- **Minor in Applied Mathematics,** University of Virginia, Charlottesville, VA, 2018

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**Academic Projects – Student****2014-2018**

Performed several projects, supported by an advisor, during my undergraduate program at the University of Virginia.

- **Diabetic Retinopathy:** Created machine learning software to predict the onset of diabetic retinopathy.
- **EKG Circuitry:** Created an EKG circuit device to monitor human leg muscle contraction.
- **Optimal Goods Distribution:** Created an optimal path simulation for the distribution of goods within a store chain.
- **Gene Analysis:** Used the UVA supercomputer to analyze gene data gathered with a Minion device.
- **Election Visualization Project:** Created an interactive data visualization for US election data.
- **Lower Cost Bacteria Plater:** Aided debugging Arduino code and modified circuitry design.
- **Fannie Mae Loan Project:** Used cloud computing and machine learning methods to predict whether a loan will default for Fannie Mae.
- **Titanic Survival Prediction:** Created a machine learning algorithm to predict the survival rate of individuals on the Titanic.
- **Opioid Crisis Simulation Project:** Created a probabilistic model to simulate the opioid crisis in the United States
- **Football Concussion Simulation Project:** Created a probabilistic simulation to model the concussion rate of high school football players.
- **VDOT Road Analysis Tool:** Created a tool for VDOT they can use to analyze the usage and wear of the Virginia roads.

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**Fleming Lab, Charlottesville, VA - Student****January 2018 – August 2018**

University of Virginia Systems and Information Engineering laboratory. The lab is focused on a variety of projects including systems integration, risk analysis, informed decision making, and optimization.

**Insulin Pump:** Developed security enhancements to increase patient protection without hindering patient operation. Constructing a program to scrape data from an attack database website. Rated each attack and the corresponding defense. The cost is estimated. Conducted a detailed optimized decision analysis to determine which defenses should be incorporated.

**Zhen Lab, Charlottesville VA - Student****July 2017 – May 2018**

Zhen, part of the University of Virginia Medical School, is focused on skeletal muscle plasticity signaling mechanisms.

**Mouse Health Environment:** Designed and built an automated cage. The cage extends the lifespan and improves the health of mice. Constructing the automated mouse cage involved part design, circuit design, software development, 3D modeling, and 3D printing.

***Additional Training***

- **Part Time Data Science Course**, General Assembly, DC, August 2019 to October 2019.
- **ITIL V4 Foundations**, Learning Tree, Herndon, VA, June 2019

***Software Experience***

- **Python:** Experience with data science, object oriented programming, feature engineering, regular expressions, machine learning, and visualization using python libraries.
- **MySQL:** Experience creating new databases, data cleaning, and new data creation by joining tables.
- **Tableau:** Experience using this software for interactive and effective data visualization.
- **R:** Experience in statistical analysis, Monte Carlo simulation, data science, machine learning, and data visualization
- **Java:** Experience with Object Oriented programming and software development methods.
- **Excel:** Experience using VBA to manipulate, visualize, and clean datasets. VBA was also used to perform decision and tradeoff analyses.
- **Salesforce:** Administration experience updating client lists, assigning permissions, assigning clients to salesmen, updating the salesforce interface.
- **HTML, CSS, JavaScript:** Experience using these languages to create websites and create interactive data visualizations.
- **C++:** Knowledge of basic syntax
- **C:** Knowledge of basic syntax

***Personal Projects and Interests***

- **\$50K Machine Learning Project:** Developed a socioeconomic machine learning model to predict individuals that will make over \$50 K per year.
- **Automobile Quality Classification:** Uses quality factors about a specific car to predict quality.
- **Founded and Runs the Data Science Competition Team on Yammer**
  - **Familial Relationship Project:** Developed a machine learning model to identify relatives through their pictures, using convolutional neural networks.
  - **Heart Disease Prediction:** Developed a machine learning model to predict the onset of heart disease in patients
- **Endless Runner Video Game:** Created a simple video game.
- **Functional Role Playing Video Game:** Created a role playing video game where you find a treasure, fight monsters, and advance from room to room to complete a level.
- **Certified Personal Trainer**
- **ITIL v4 Foundations Certification**
- **Black Belt Taekwondo**

***Awards***

- University of Virginia Dean's List
- Graduated with Distinction from the University of Virginia
- 1<sup>st</sup> place in the Mathematical Competitive Games 2017-2018 Distribution of Goods
- Omega Rho Honors Award