Charles J. Seaver

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Education

James Madison University, Harrisonburg, VA
*B.S. in **Engineering** (ABET Accredited) with minors in **Computer Science, Robotics,** and **Mathematics***
Major GPA: 3.25 | Cumulative GPA*:* 3.09

Graduation date: *May 2021*

Experiences

Bear Collar Project *August 2020 - Current*

- Working with other engineers and experts in the field of robotics at JMU to build a bear collar that transmits GPS, kinematic, and environmental data that can be accessed through a web app. Learning different types of sensors, AWS, web application development, and designing PCBs to build a working prototype with funding from Northrup Grunman.

Analyzing Algae using Multispectral Imaging and Drones *October 2019 - Current*

- The goal of this project is to detect and analyze algae in water to improve long-term environmental analysis. By creating a more affordable and simple alternative to current algae detection methods, clients can manage, detect, and track algae patterns in their lakes, ponds, rivers, etc. Our design will capture multispectral images of water by drone flight, and those images will be analyzed through an ArcGIS Pro plugin that I am programming using Visual Studio and C#.

Developed and Published "Ring Pop: A Speedrun Game" on Google Play *May 2019 - Current*

- Designed and programmed an android application independently in Java, where players try to fit circles inside the area of a ring through all 90 levels. This application incorporates collisions, user input, graphics, threads, and a database for a global leaderboard. Currently updating with new improvements.

Human Powered Vehicle, Lead Engineer *August 2018 - May 2019*

- In a two-semester team project of designing and fabricating a human powered vehicle for a client with spastic cerebral palsy, I focused on frame analysis, center of gravity, vehicle performance, and gearing to fit our clients constraints.

Honors

Top 5; Texas A&M: Invent for the Planet 2020 *April 2020 - August 2020*

- Placed top 5 for a second time in a row. Worked with a team of four, where we designed a phone application that would navigate pedestrian travelers through user preferenced routes.

Top 5; Texas A&M: Invent for the Planet 2019 *April 2019 - May 2019*

- Worked in a team of three, where we designed and pitched a self inflatable aircraft wing cover in a 48 hour global competition. Out of 100+ teams, we were chosen as top 5, and traveled to Texas A&M to compete in the final round.

4th Place; Innovation X: JMU Bluestone Hackathon *February 2019*

- Led a team of four to design, prototype, and pitch an automatic train derailment detector in a 24 hour hackathon competition. My colleagues liked the idea and started a two year capstone project based around the idea.

Work Experience

James Madison University, Harrisonburg, VA — Mathematics Tutor *September 2019 - Current*

- Mentored students in mathematical techniques to strengthen their knowledge and encourage critical thinking and independent learning.

Relevant Skills

Programming languages: **Java**, **C++**, **C#**, **HTML/CSS**

Softwares: **Solidworks, AutoCad, EAGLE, OnShape, Matlab, Lingo, ArcGIS, Visual Studio, MS Office**