**Evan Shebel**

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443-852-4470 <https://ews6.github.io/portfolio/index.html> [ewshebel@gmail.com](mailto:ewshebel@gmail.com)

[**Electric Motorcycle Design Project**](https://ews6.github.io/portfolio/moto_frame.html)

Shebel, Evan. 2016. *Electric Motorcycle Frame* U.S Patent Application 62/351,276, filed June 16, 2016.

Designed a motorcycle frame specifically for the constraints of a battery electric vehicle. I then submitted a provisional utility patent for the design. More information is available in the projects section of my website [here](https://ews6.github.io/portfolio/moto_frame.html).

[**Capstone**](https://ews6.github.io/portfolio/uav.html)

Worked among a five person team to redesign a quad rotor frame UAV for [UAV Solutions](http://uav-solutions.com/). Aimed to achieve an increase in portability by having the frame fold to a volume small enough to fit into a police cruiser’s trunk.

Used lightweight materials such as carbon fiber to increase flight time; with the goal of 60 minutes of mission time.  Utilized management and organizational tools such as a system boundary diagram, system requirements specification, conceptual design review, production schedule, Gantt chart, and bill of materials throughout the design and build phases.

**Matlab**

* First programming language I learned. After taking the Matlab course for my engineering major I continued to make use of it in my engineering classes. For example, in my controls course I used it to check homework answers.
* Sample project of gauss-seidel method to solve system of linear equations.

**Python**

* Decision Structures, File I/O, Recursion, Dictionaries, Functions, Classes.
* Sample project of a minesweeper game that is updated using recursion.

**Arduino/Lab-View**

* Controls Lab project used the Arduino as a way to implement a control system. The project involved a throttle (potentiometer), H-Bridge Stepper Motor Driver, DC brushed motor, planetary gear set, and eccentric mass (magnet) that determined speed by sampling data from a fixed hall-effect sensor. The project was run through Lab-View to collect the data.
* The objective of the project was to map a 5V potentiometer to a motor with an unknown rpm range. The speed of the motor would be determined by reading the signal of the hall-effect sensor.
* Explored ways to improve the performance by implementing a closed loop feedback control system.
* The open loop response was compared to the corresponding potentiometer inputs and the drawbacks of the open loop system were analyzed.

**Work Experience**

*UPS – Part time* Burtonsville MD

November 2016- Current

*Landscaping*  Ellicott City MD

Self-employed June – Aug. 2011-2012, 2014

*Seashore Ace Hardware* Stone Harbor NJ

Sales Associate, Register, Stocking, Deliveries June – Aug. 2013

**Education**

University of Maryland Baltimore County, Baltimore Maryland, ABET Accredited

*Expected* B.S. Mathematics, **December, 2017**

*Graduate* B.S. Mechanical Engineering, 2015

**Academic and Technical Skills**

* Robust feature and surface modeling experience with SolidWorks and Inventor
* ASME Y14.5
* Experienced with Matlab, Python, LabVeiw, Arduino
* Proficient in Microsoft Word, Excel, and PowerPoint
* Basic experience with using a manual mill and lathe
* Completed an *Earlbeck Gases and Technologies* 40-hour class on the fundamentals of GMAW, GTAW, SMAW, and oxy-fuel welding