Daniel Engbert

Software Engineer

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Education

University of Maryland Baltimore County (UMBC) — *Baltimore, MD*

Bachelor of Science in Computer Science, with a minor in Mathematics, GPA: 3.7/4.0 — *May 2019*

- Teaching Assistant (TA) and lab leader for intro to C++ course (1 year), and tutor for C++ Data Structures (1 year)
- Resident Assistant (2 years)
- Member of UMBC Environmental Task Force Club, and UMBC Hackers Club (participated in 5 hackathons)

Experience

Scale AI — *San Francisco, CA*

Product Engineer — *Feb. 2021 - June 2021*

- Developed a full stack (self service) tool for customers to upload data (e.g. images, documents) and receive a labeled dataset for training their AI algorithms. Automated assigning workers to labeling a project's data, managing their assignment with automated training courses and quality control mechanisms (using React, Node.js, and MongoDB).
- Presented system demos and provided support to customers to reach their project goals; ultimately enabling higher quality datasets for their machine learning applications.

Robotic Research LLC — *Gaithersburg, MD*

Software Engineer — *June 2019 - Jan. 2021*

- Supporting the development of autonomous software for the electric shuttle Olli. Lead the deployment/mapping process for new autonomous routes across several cities.
- Led the creation of a web app for searching/downloading data (stored in the cloud) collected from fleets of autonomous vehicles around the world (utilizing Flask, and various AWS services).

Computer Vision Intern — *June 2018 - Aug. 2018*

- Trained/evaluated a neural network on several datasets to perform object detection in photos and wrote Python scripts to convert various datasets into a common format for training. Created a C++ camera driver for a computer vision system in a ROS pipeline.

AT&T — *Columbia, MD*

Software Developer Intern — *May. 2017 - Dec. 2017*

- Improved a network security tool by writing shell scripts to manage a Hive database built on top of a Hadoop Distributed File System, and by integrating a deep packet inspection C library into the tool. Participated in (Agile) code reviews and sprint planning.

Imaging Research Center at UMBC — *Baltimore, MD*

Full Stack Web Developer Intern — *June 2016 - Aug. 2016*

- Helped develop retrieverstories.umbc.edu (a social media site for current/former students to share their experiences). Developed new features using PHP, SQL, HTML, and CSS.

Projects

global-board.org

- Designed and implemented a website for learning about every country (showing whats trending there and embedding learning resources/videos). Implemented with React, Node.js, PostgreSQL, hosted on Google Cloud, and using the YouTube, Spotify, and Twitter APIs.

A.I. Algorithms

- Implemented a feed forward neural network from scratch in Python using NumPy and evaluated the performance on the MNIST dataset after studying the linear algebra and calculus needed to implement backpropgation through an online course.
- Implemented the Hill Climbing and Simulated Annealing optimization algorithms in Python to optimize employee shift schedules with respect to a heuristic function.
- Implemented a decision tree, the kmeans classification algorithm, as well as tf-idf for practicing NLP.

Ray Tracer

- Implemented a ray tracer in C++ capable of rendering images and videos of 3D scenes with shading, shadows, and reflections (using lots of linear algebra). Also implemented a rasterizer and 3D mesh smoother algorithm.

Skills & Achievements

Programming Languages	Python, C++, C, bash, Javascript, HTML, CSS, SQL, MongoDB, R, Java
Frameworks & Tools	React, Node.js, Flask, Docker, Apache, NGINX, ROS, Android Studio
Design Software	SolidWorks, SketchUp, GIMP (photo editing), Davinci Resolve (video editing)
Electronics	Extensive Arduino and PIC microcontroller experience
Foreign Languages	Spanish (fluent), Portuguese (conversational)
Achievements	Eagle Scout (2014), National Honor Society Member, FIRST Robotics club (national championship participant)