Mitchell Bloch

mjbloch@umich.edu | LinkedIn | GitHub | 248-633-4130

Education

University of Michigan College of Engineering — Ann Arbor, MI
Bachelor of Science in Engineering, Computer Science, GPA: 3.73/4.00 — *Apr. 2024*

University of Michigan Rackham Graduate School — Ann Arbor, MI
Master of Science in Engineering, Computer Science — *Apr. 2025*

Technical Skills

Languages: C++, C, Python, C#, HTML, CSS, MATLAB, JavaScript, SQL, ARM
Frameworks: React, Node.js, Express.js, Django
Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, Linux, Windows, Unix, Microsoft Azure, Azure DevOps, SAP S/4HANA
Libraries: TensorFlow, PyTorch, torchvision, pandas, Matplotlib, scikit-learn, NumPy, SciPy, imageio, Pillow

Experience

Ernst & Young LLP — June 2023 - Aug. 2023
Technology Consulting Intern — *Detroit, MI*

- Developed Python scripts to facilitate seamless migration of financial data to modern SAP platforms
- Expanded and organized a portfolio of 500+ work items within Azure DevOps among cross-functional teams
- Applied SQL queries to simplify finance data processes and improve search efficiency and performance

Institute of Electrical and Electronics Engineers (IEEE) — December 2022 – Present
Student Branch President — *Ann Arbor, MI*

- Led and managed a team of 10+ officers, coordinating club activities, assigning responsibilities, and fostering collaboration to ensure successful execution of events and initiatives
- Worked closely with the National IEEE organization to participate in conferences and trips, leveraging industry connections and resources to provide valuable learning and networking opportunities for club members
- Orchestrated high-quality events, driving a 150% growth in membership and an 250% increase in event attendance

Projects

Dog Image Classifier | *Python, Pillow, imageio, scikit-learn, NumPy, pandas, PyTorch* — Mar. 2023 – May 2023

- Developed an 11-layer Convolutional Neural Network (CNN) architecture, incorporating Convolutional Layers, Max Pooling Layers, Fully Connected Layers, and Drop Layers to accurately classify dog images by breed
- Employed weight decay, regularization techniques, and data augmentation to mitigate overfitting, enhance model generalization, and improve performance
- Utilized transfer learning by freezing specific layers and fine-tuning the model for targeted breed classification

Reddit Comment Classifier | *Python, scikit-learn, NumPy, pandas, Matplotlib, Git* — Jan. 2023 – Mar. 2023

- Developed a multiclass classifier utilizing Machine Learning and Natural Language Processing techniques to accurately classify the emotion of Reddit comments, achieving an 88% accuracy on a random set of comments
- Implemented and thoroughly tested various SVM models with different kernels (linear, quadratic, cubic, rbf, and sigmoid), penalties, loss functions, and hyperparameters to optimize the classifier's performance
- Incorporated term frequency–inverse document frequency (TF-IDF), resulting in enhanced accuracy and more effective handling of textual input

Coursework

- Data Structures and Algorithms, Discrete Math, Differential Equations, Multivariable and Vector Calculus, Linear Algebra, Machine Learning, Computer Organization, Computer Vision, Web Systems, Operating Systems, Artifical Intelligence, Cybersecurity, Project Management and Consulting