Blake Martin

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EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science in Machine Learning Dec. 2022

University of Michigan Ann Arbor, MI
Bachelor of Science in Data Science with Mathematics Minor | GPA: 4.00/4.00 May 2021

- Coursework: Deep Learning for Computer Vision, Unsupervised Computer Vision, Conversational Artificial Intelligence, Machine Learning for Affective Computing
- Instructional Aide for Introduction to Machine Learning (Fall 2020, Winter 2021)

PROFESSIONAL EXPERIENCE

Amazon Seattle, WA | Remote
Software Development Engineering Intern May 2021 – Aug. 2021

- Programmed heuristic solutions of the Vehicle Routing Problem to optimize driver transport tours, reducing latency by a factor of 2-4 depending on problem size

KLA Corporation Ann Arbor, MI | Remote
ML Algorithms Intern June 2020 – Aug. 2020

- Performed self-supervised representation learning with autoencoders and simCLR in TensorFlow
- Developed algorithms that produce encodings of large images 3x faster than with previously used methods in transfer learning tasks while maintaining downstream predictive power

Gentherm Northville, MI
Advanced Engineering Intern May 2019 – Aug. 2019

- Extracted accurate predictions of occupant weight, height, gender, and clothing insulation from a car seat pressure distribution while reducing sensor area required by 98% *(patent pending)*

RESEARCH EXPERIENCE

Infinite Outcome Prediction Markets | University of Michigan Dec. 2020 – July 2021

- Designed a new probabilistic aggregation mechanism to capture Bayesian belief distributions of traders and simulated effects of trader characteristics on compensation *(workshop paper)*

Computational Physics Group | University of Michigan Oct. 2018 – Feb. 2021

- Constructed 3D Convolutional Neural Networks that predict effective diffusivity of microstructures in batteries given volumetric image representations
- Implemented gradient descent and physics-based adjoint optimization to analyze MRI scans and model mechanics that govern brain folding in development *(journal publication)*

Cytogenetics AI | Beaumont Health System – Royal Oak Apr. 2019 – Dec. 2020

- Built a Convolutional Neural Network that can differentiate eight classes of normal and abnormal chromosomes associated with myeloid leukemia at 94% accuracy *(conference presentation)*
- Applied k-means clustering to extract individual chromosome pairs from karyotype images

SKILLS

Programming Languages: Python, C++, JAVA, R, SQL, MATLAB
ML and Data Mining Libraries: PyTorch, TensorFlow, scikit-learn, OpenCV, NumPy, Pandas, Matplotlib
Technical Proficiencies: Visual Studio Code, Windows Subsystem for Linux, Git, Jupyter Notebook