

COLE WOOD DIIANNI

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EDUCATION

University of Wisconsin - Madison

Madison, WI

MS Computer Sciences, Machine Learning, GPA: 3.96

Sept 2021-May 2024

- **Programming Coursework:** Foundation Models & Future of Machine Learning, Computer Vision, Learning Based Image Synthesis & Manipulation, Advanced Deep Learning, Machine Learning, Matrix Methods in Machine Learning

Carleton College

Northfield, MN

BA Computer Sciences, GPA: 3.82

Sept 2017-June 2021

- **Programming Coursework:** Machine Learning, Data Science, Algorithms, Linear Algebra, Numerical Analysis, Programming Languages Design & Implementation, Computability & Complexity, Software Design

EXPERIENCE

Google

San Francisco, CA

Software Engineer Intern, Applied Machine Learning

May 2024-Aug 2024

- Distilled a multilingual job posting classification model from Gemini to use for job feature extraction and search refinement
- Analyzed applications of a prompt-guided LLM embedding space for resume-to-job matching, event clustering, dimension reduction, and job-taxonomy refinement
- *Hosts:* Grigor Aslanyan, Broderick Arneson
- *Utilized:* LLM, Prompt Engineering, Model Distillation, Clustering, Content-Based Indexing

University of Wisconsin - Madison

Madison, WI

Computer Vision/Computer Science Researcher

Sept 2021-May 2024

- Organized a text-guided, adversarial object generation pipeline to fool classification models when a generated object is rendered from arbitrary viewpoints and lighting conditions
- Developed generative models to correct for covariate shift during cancer prediction model deployment with 88% accuracy on OOD dataset using python
- *Advisor:* Dr. Yin Li, Dr. Somesh Jha
- *Utilized:* Computer Vision, Neural Network, CNN, GAN, OOD-Detection, Image Classification, Supervised Learning

Carleton College

Northfield, MN

Machine Learning/Computer Science Researcher

Jun 2019-Jun 2021

- Conducted exploratory research investigating the effects of menstrual cycle hormones on insulin sensitivity in individuals with type I diabetes by analyzing blood glucose and insulin time series data
- *Advisor:* Dr. Dave Musicant
- *Utilized:* Time Series Data, Clustering, Regression Models, Dynamic-time-warping

Ottawa Hospital Research Institute

Ottawa, ON

Computer Vision/Computer Science Researcher

Jun 2020-Aug 2020

- Predicted localized gene expression within H&E slide tissue samples using vision models trained on spatial transcriptomics data
- *Advisor:* Dr. Theodore Perkins

TEACHING ASSISTANT

University of Wisconsin - Madison

Madison, WI

Intro to Artificial Intelligence (Head TA)

Sept 2022-May 2024

University of Wisconsin - Madison

Madison, WI

Programming I (Head TA)

Sept 2021-May 2022

PROJECTS

Keystrokes as a Password - Carleton College

Lead Machine Learning Engineer

Sept 2020-Mar 2021

- Designed a two-factor authentication method to identify users based on typing patterns using a recurrent neural network
- Developed and implemented a keystroke-based password authentication system that achieved 95% precision with 22% recall

LEADERSHIP

Carleton Student Association

Northfield, MN

Class Representative

Mar 2018-Mar 2021

- Established a seminar series covering topics such as budgeting, investing, and insurance to teach students important life skills

SKILLS

Software Languages: (proficient): Python, Java, C, R (familiar): SQL, HTML, CSS, LaTeX

Technologies: (proficient): Pytorch, Tensorflow, LLM, Distillation, Transformer Networks, Deep Learning, Clustering, Classification (familiar): Neural Radiance Field (NERF), Diffusion Model, Hadoop, Spark, Map-Reduce