

COLTEN WOOD DILANNI

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EDUCATION

University of Wisconsin - Madison

Machine Learning, MS/PhD

Madison, WI

Sept 2021-Cur.

- **Programming Coursework:** Machine Learning, Matrix Methods in Machine Learning

Carleton College

Computer Science, BA, GPA: 3.81

Northfield, MN

Sept 2017-June 2021

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

EMPLOYMENT

University of Wisconsin - Madison

Computer Science Researcher

Madison, WI

Sept 2021-Cur.

- Performed membership inference attacks on convolutional neural networks to reconstruct the models' training set using a generative adversarial network
- Advisor: Dr. Somesh Jha

Carleton College

Computer Science Researcher

Northfield, MN

Jun 2019-June 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
- Accounted for variable schedules by utilizing dynamic time warping while performing clustering in order to identify average day series for each individual
- Advisor: Dr. Dave Musicant

Ottawa Hospital Research Institute

Computer Science Researcher

Ottawa, ON

Jun 2020-Aug 2020

- Predicted localized gene expression within tissue samples by training a convolutional neural network on H&E slide images and testing against spatial transcriptomics data
- Achieved a maximum percentage variance explained of 20.57 when predicting expression of the 10 most highly expressed genes in a mouse main olfactory bulb dataset
- Advisor: Dr. Theodore Perkins

Prep Network

Data Analyst

Maple Grove, MN

Dec 2019-Jan 2020

- Built a gate revenue prediction model using attending teams' proximity to various tournaments
- Calculated optimal day, time, and subject of company Twitter and email advertisement

TEACHING ASSISTANT

University of Wisconsin - Madison

Programming I

Madison, WI

Sept 2021-Cur.

Carleton College

Programming Languages Design & Implementation

Northfield, MN

Sept 2020-Mar 2021

Carleton College Summer Computer Science Institute

Natural Language Processing

Northfield, MN

Jun 2019-Sept 2019

PROJECTS

Senior Capstone Project

Distinguished Engineer

Sept 2020-Mar 2021

- Designed a two factor authentication method using a recurrent neural network on keystroke dynamics
- Achieved a true-user acceptance rate of 95% with a false-user acceptance rate of only 22%

LEADERSHIP

Carleton Student Association

Class Representative

Northfield, MN

Mar 2018-Mar 2021

- Established a seminar series covering topics such as budgeting, investing, health insurance, and job benefits to prepare students for life after graduation

SKILLS

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