Jacob Caurdy

Computer Science Engineer
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Education

Michigan State University: GPA: 3.8

- Bachelor of Science in **Computer Science Engineering** – **Cognitive Science Minor – Honors College**
- Coursework: CSE404 Machine Learning, CSE891 Computational Foundations of AI and ML,
- CSE 891 Genetic Programming, CSE 435 Software Engineering, CSE 460 Computability and Languages

Technical University of Madrid: Study Abroad – Summer 2019

Experience

MSU CSE 331: Data Structures & Algorithms: Teaching Assistant & Project Co-Lead – (Jan '21: May '22)

- Oversaw the development of unique curriculum each semester to help students understand the implementation and application of all essential data structures and associated algorithms in Python
- Created coding challenge and project assignments for all basic and advanced data structures
- Held weekly help rooms to tutor students one-on-one and in small groups to lead them through current assignments and course theory
- Graded students' projects and assignments with helpful feedback and dialogue to correct mistakes and show them more efficient implementations of their algorithms

Mars Inc: Data Analytics Intern: Supply Chain Analytics – (May '21: August '21)

- Created an automatic customer support response application which could save associates 250+ hours/week in answering emails from retailer customers
- Written in **Python** using a **90% accurate NLP multi-class text classification** model with a **Dash** front-end
- The application classified emails, extracted key information, retrieved related information from databases and then created an automatic draft response which the user could review before sending

Fraunhofer USA CCD: Systems Engineering Intern – (August '18: May '20)

- Communicated with software engineers to create an HMI for automated process control and recipe loading using **LabVIEW** and **TwinCAT** for a next generation diamond system. Achieved Plasma.

Projects

Automatic Speech Recognition Pipeline: **Python CLI GitHub** – MSU CSE Capstone

- Worked as the role of technical lead within a team of five students to create a software for turning audio files into time aligned transcripts used for linguistic analysis through the MI Diaries project
- Project was awarded the Auto-Owners Exposition Award for best Design Day Presentation
- Available at https://github.com/caurdy/MSULinguisticsCapstone

Named Entity Recognition using Linear Genetic Programming: **Python** – CSE 891: Genetic Programming

- Created a linear genetic programming system for generating regular expressions for named entity recognition. System available here https://github.com/caurdy/LGP-NER-RegEx.

Chess Space Control Visualizer: **JavaScript CSS HTML** – https://github.com/caurdy/ChessVisualizer

- Created a website for displaying space control for each color using color gradients

Skills

Languages | Python, C++, HTML, CSS, JavaScript, SQL, MATLAB, Git, GDB

Technologies | Linux, Azure Machine Learning, Azure Dev-Ops, CLI/Bash

Python Data Analytic Libraries | NLTK, Spacy, SkLearn, Keras, PyTorch, Pandas, Matplotlib, Dash

Leadership

MSU Rugby Club: **Vice President** - (January '20: May '22)

- Oversaw all branches of the club including recruitment, marketing, financial, and social
- Maintain michiganstaterugby.com, a WordPress hosted site written in **HTML**, **CSS,** and **JavaScript**

Hobbies

Gaming (FPS, Sports, Rocket League), Working out, Reading (Sci-Fi, Philosophy, Psychology, CogSci)