Carter Perkins

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Education

University of Oregon (3.61 GPA) Sep 2017 – Jun 2021

Bachelor of Science in Computer & Information Science

Bachelor of Science in Mathematics

Experience

Computer & Information Science Department, University of Oregon Eugene, OR

Learning Assistant Mar 2021 - Present

- Holding office hours to assist students in learning data science topics such as: data wrangling, KNN, Naive Bayes, and Artificial Neural Nets.

Lowd Group (Adversarial Machine Learning Lab), University of Oregon Eugene, OR

Undergraduate Researcher Sep 2020 - Present

- Calculated gradient mass with respect to input quantiles using aggregator functions as a component of detecting adversarial attacks.
- Trained a multi-class RoBERTa sentiment model for subjective climate change tweets with 83% accuracy using PyTorch.

High-Performance Computing Lab, University of Oregon Eugene, OR

Undergraduate Researcher Aug 2020 - Present

- Trained a seq2seq transformer for translating regular expressions into English phrases by writing a parser in PLY and using the Sklearn, PyTorch, transformers, and PyTorch libraries.
- Built MySQL database to handle storing of extreme-scale application software Git repositories, and GitHub/GitLab issues and pull requests via Django.
- Filtered from over 40,000 emails to 800 containing PETSc stack traces and utilized keyword pattern recognition to tag emails.

Center for Cyber Security and Privacy, University of Oregon Eugene, OR

Undergraduate Researcher Jul 2020 - Present

- Conducting a cryptocurrency investigation by evaluating digital currency exchanges on the basis of user trustworthiness. The culmination of this research will produce an undergraduate thesis (Spring 2021).

Undergraduate Researcher Jun 2019 - Jun 2020

- Created a decentralized online social network system by designing a modular software architecture derived from a research paper using tools such as IPFS, WebRTC, and Django.
- Implemented a task management system to optimize middleware module interactions by developing asynchronous threads for core tasks.
- Standardized deployment environment by wrapping the application in a multi-container Docker system consisting of Python, Node.js, and PostgreSQL images.

Projects

Web-based Geospatial Data Collector and COVID-19 Smart Planning

- Along with five other students, built a web-based geospatial data collection service for participants in order to build a class-wide aggregate dataset mapping pedestrian traffic during quarantine. From this, we built a second project where we created a smart scheduling and location query service to find the most optimal time to visit a location based on the predicted number of pedestrians in the area. Built with Python, MySQL, jQuery, and Google Maps API. Both projects earned the top score in the class.

Skills

Languages: Python · C · C++ · MySQL · Java

Frameworks and Tools: Git · Subversion · Docker · Pandas · Matplotlib · Numpy · Scikit-learn

Awards

Dean's List (2) · National Science Foundation Research Experience for Undergraduates (2)