

Josh Scherer

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EDUCATION

Vanderbilt University

Majors: B.S. Computer Science & Mathematics

Minor: Data Science

May 2024

GPA: 3.83/4.00

Nashville, TN

TECHNICAL SKILLS

Proficiencies:

- **Programming Languages:** Python, C++, C, Java, Rust, R
- **Data Manipulation:** SQL, MongoDB, Spark, Hadoop, Pandas
- **Visualization:** Matplotlib, Seaborn, Plotly, Geopandas, ggplot2, PowerBI, Kibana

Relevant Coursework:

- **Data Science:** Machine Learning, Artificial Intelligence, Big Data, Mathematical Data Science
- **Mathematics:** Probability, Statistics, Linear Algebra, Fourier Analysis, Differential Equations
- **Software:** Algorithms, Software Design, Operating Systems, Data Structures, Digital Systems

PROFESSIONAL EXPERIENCE

Approck Cloud

Machine Learning Engineer

Birmingham, AL

Sept 2023 - Present

- Streamline data modeling process via cloud computing services including Amazon Web Services' SageMaker
- Forecast order cancellations, supporting operations for the largest heavy construction software company in the world
- Establish a credibility metric across customers to save concrete suppliers hundreds of annual driving hours

AvidXchange Inc.

Data Scientist Intern

Charlotte, NC

June 2023 - Aug 2023

- Leveraged survival curves to formulate a comprehensive risk index for 500,000+ users, informing strategic decisions
- Investigated and refined various regression modeling techniques, leading to more precise data-driven predictions
- Delivered crucial findings to company executives, playing a critical role in the model adoption process

Institute for Software Integrated Systems

Research Assistant

Nashville, TN

May 2022 - Present

- Architected an AI decision support system used to optimize traffic flow along a 28 mile stretch of I-24
- Constructed an interactive graphical representation of a 200+ device network using GIS data queries
- Deployed an automated solution for seamless, real-time analysis of extensive weekly traffic data streams

Vanderbilt University

Teaching Assistant: Digital Systems

Nashville, TN

Aug 2022 - May 2023

- Offered timely feedback through graded homework and clarified students' doubts to enhance comprehension
- Identified, articulated, and addressed student concerns, ensuring a conducive learning environment

PROJECTS

Charlotte Geolocation Exploration

Apr 2023

- Designed an interactive choropleth of Charlotte with EC2/S3, Spark, & Python, presenting clear traffic/crime patterns
- Implemented fuzzy address searching (Levenshtein) using existing address data across the Charlotte district
- Connected to SQL database to seamlessly scale data volume without disrupting existing infrastructure

Rubik's Cube

Aug 2023

- Used linear transformations and object oriented programming to model the Rubik's cube in Python
- Moving towards implementing a reverse-solving algorithm to create murals out of multiple cubes

Alzheimer's Classification

May 2023

- Deployed models ranging from SVM to NN to classify the severity of Alzheimer's disease across MRI scans
- Mitigated underlying bias in the dataset resulting from variations in MRI machines to ensure robust model performance

PUBLICATIONS

Cooperative Multi-Agent Reinforcement Learning for Large Scale Variable Speed Limit Control published to the 2023 IEEE International Conference on Smart Computing (SMARTCOMP)

AWARDS

Vanderbilt School of Engineering Dean's List (All Semesters), National Merit Commended Scholar (Finalist), National AP Scholar (2020), Pi Mu Epsilon Honor Society (2023)