Chase Overcash Software Engineer

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EDUCATION

University of California - Irvine September 2021 - June 2023 est.
Master of Science in Computer Science - Machine Learning

Arizona State University August 2017 - May 2020
Bachelor of Science in Computer Science - Software Engineering

- Graduated Cum Luade with 3.52 GPA

SKILLS

- **Programming Languages:** Python, Java, C#, C++, Kotlin, Matlab
- **Technologies:** Pytorch, Keras, Tensorflow, React AI, Snowflake, MiniZinc, R.O.S.
- **Approaches:** Natural Language Processing, Convolutional Neural Networks, Recurrent Neural Networks, Generative Adverserial Networks, Hyper-dimensional Computing, Constraint Processing, Deep Learning, Reinforcement Learning, Spiking Neural Networks, Data Mining, Search Algorithms

EXPERIENCE

Neudesic May 2019 - August 2019
Intern - Software Engineer

- Worked with a small team to develop and test an Android mobile application for client usage.
- Micrsoft's Azure DevOps was used for software analysis, quality assurance testing, and bug tracking in an Agile development process and sprint based environment.

Fulton Undergraduate Research Initiative August 2019 - May 2020
Lead Researcher

- Spearheaded a paid research initiative on the potential of machine learning and artificial intelligence approaches in urban mobility.
- Data mining was used to efficiently parse big data of the bus transportation history in Python, and simulations of the results were made in Unity.
- Intelligent autonomous vehicles showed that given learned insight from a neural network and real time autonomous multi-system coordination between active busses, informed decisions can tangibly improve the public transportation experience.

Arizona State University Research May 2019 - May 2020
Researcher

- Assisted a PhD student's thesis on how rhythmic feedback, supported by machine learning, affected the gait of a Parkinson's patient. Trials were done in partnership with A.T. Still University.
- Measured the effects of several different rhythmic patterns on various gait severities in order to collect data.
- Machine learning was explored to maximize the effectiveness of haptic feedback by modifying the patterns to best suit the belt wearer.

PROJECTS

Seoul Bike Rentals (Deep Forest) April 2022 - June 2022
https://github.com/Chase-Overcash-UCI/SeoulBikeRentals

- Integrated popular machine learning approach, Random Forest, with a deep recurrent neural network to investigate its potential as a classification solution in contrast to modern alternatives.

Spiking Hyper-Dimensional Computing April 2022 - June 2022
https://github.com/Chase-Overcash-UCI/Spiking-HyperDimensional-Computing

- Conceived a spiking hyper-dimensional computing system as an alternative approach for tackling neuromorphic MVSEC dataset to current industry standard, spiking neural networks.

Sokoban Reinforcement Learning October 2021 - December 2021
https://github.com/Chase-Overcash-UCI/Sokoban_RL_Project

- Applied reinforcement learning to an old logic based video game to quickly find optimal solutions.

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