Chase Zimmerman

Sandia National Laboratories
Machine Learning R&D Intern
Quantitative Modeling and Analysis

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Research Interests

Quantum Computing, Quantum Information, Machine Learning, Computational Physics, Hardware Acceleration.

Education

B.Sc. Computer Engineering and Computer Science, University of Southern California, 2021.

GPA 3.77/4.00 (Cumulative)
GPA 3.93/4.00 (Upper Division Coursework)

Research Experience

Machine Learning Research Intern, Sandia National Laboratories, May 2018–present.

Developed new methods for anomaly detection in time series data.
Developed a deep learning approach to automatic feature extraction in raw network packet data.
Designed low-level C++ applications to process and vectorize large amounts of data.
Year-round position.

Publications

1. (In Preparation) **Development of Novel Approaches to Anomaly Detection and Surety for Safeguards Data**
   Natacha Peter-Stein, David Farley, Constantin Brif, Nicholas Pattengale, Chase Zimmerman, Meghan Galiardi, Yifeng Gao, Jessica Lin, Mitchell Negus, Rachel Slaybaugh.
   Preceedings, 61st Annual Meeting of the Institute of Nuclear Materials Management.

2. (Accepted, conference delayed until 2021) **Acoustic Signatures in Metal Laser-Powder Bed Fusion**
   Bradley Jared, David Saiz, Matthew Roach, Scott Jensen, Maher Salloum, Constantin Brif, Chase Zimmerman, Elaine Rhoades.
   2021 Annual International Solid Freeform Fabrication Symposium.

3. **Packet2Vec: Utlizing Word2Vec for Feature Extraction in Packet Data**
   Eric L. Goodman, Chase Zimmerman, Corey Hudson.
   Proceedings, 2019 Machine Learning and Data Mining in Pattern Recognition 15 vol. 1, 161–175.

Teaching

Teaching Assistant, *Data Structures and Object Oriented Design (CSCI 104)*, University of Southern California, Prof. Aaron Coté, Prof. Sandra Batista, Prof. Mark Redekopp, Spring 2019–present.

Industry Experience

Web Development Intern, Sandia National Laboratories, Jan 2018–May 2018.

Developed interactive web applications designed to display and manage geospatial data served from GIS software.

Implemented protections against web application vulnerabilities using static and dynamic application security testing methods.

Awards and Honors

Dean's List, USC Viterbi School of Engineering, Continuously from Fall 2018 to Spring 2020

Skills

Data and Computer Science

Machine Learning, Data Mining, Optimization, Artificial Intelligence, Linear Algebra, Parallel Programming, Distributed Systems, Data Structures.

Computer and Electrical Engineering

FPGA Programming (Verilog), IoT, Networking.

Software Development

Python, C/C++, JavaScript, Java, SQL, Assembly.

Technologies

ML Frameworks (Tensorflow, PyTorch, etc.), web frameworks, databases, linux, git, vim, tmux, LaTeX.

Last updated: August 27, 2020
`https://www.thechase.io/`