

Chase P. Zimmerman

Computer Engineer, Machine Learning Research Intern.

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Currently

Research Intern at Sandia National Laboratories (Orgs: Quantitative Modeling and Analysis, Extreme Scale Data Science and Analytics)

Research interests

Applied machine learning and artificial intelligence. Quantum algorithms, error correction, and control. Computational physics.

Education

2018-2021

B.S. (Honors) Computer Engineering and Computer Science

University of Southern California, magna cum laude

GPA 3.8/4.0 (3.95 Upper Division)

Positions

2018-Present

Machine Learning Research Intern, Sandia National Laboratories

Advisors: Dr. Constantin Brif, Dr. Eric L. Goodman

Year-round position: 15-20 hours per week continuously since 2018, 40 hours per week (summer).

2017-2018

Web Development Intern, Sandia National Laboratories

Mentor: Edward Walsh

Sole developer tasked with updating interactive Geographical Information System (GIS)-based web applications.

Publications

Peer-Reviewed

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.

2020

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. Proceedings, 61st Annual Meeting of the Institute of Nuclear Materials Management.

2019

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

Research Software

2019

Packet2Vec: Deep-learning based automatic generation of network packet features for intrusion detection.

Talks

2019

Packet2Vec: Utilizing Word2Vec for Feature Extraction in Packet Data MLDM 2019.

Teaching

University of Southern

California

2021

Discrete Methods in Computer Science

Undergraduate teaching assistant for Dr. Sandra Batista.

2019-2020

Data Structures and Object Oriented Design

Undergraduate teaching assistant for Dr. Sandra Batista, Dr. Aaron Cote, and Professor Mark Redekopp.

Awards

2018-2021

USC Viterbi Dean's List, University of Southern California

Skills

Programming Languages

Python, C/C++, Rust, Verilog, Matlab, JavaScript, Java, SQL, Assembly, Latex.

Software

PyTorch, Mathematica, various web frameworks, various linux distributions.

Scientific Computing

Message Passing Interface (MPI), OpenMP, CUDA, development and deployment of software on large-scale HPC clusters.

Aviation

Private Pilot (Airplane Single Engine Land), Instrument Rating (Airplane), Remote Pilot (Small Unmanned Aircraft System), Ground Instructor (Advanced, Instrument).