Zhuyun (Maggie) Xiao

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Research Interest

Magnetism, Straintronics and Microstrain Map Visualization, Energy-efficient Magnetoelectrics, Multiferroics for Memory and Biomedical Applications, Deep Learning for Enhancing X-ray Magnetic Microscopy Images' Resolution, Reinforcement Learning for Path Planning, Compressed Sensing, Natural Language Processing.

Education

University of California, Los Angeles, CA, USA — 2017-Expected 2020
Ph.D. candidate, Electrical and Computer Engineering (ECE) — GPA: 4.00/4.00
ALS Doctoral Fellow in Residence, Lawrence Berkeley National Lab, CA — 2018-2019

University of California, Los Angeles, CA, USA — 2015-2017
M.S., Electrical Engineering (EE) — GPA: 3.92/4.00
Edward K. Rice Outstanding Masters Award (1/2000+), UCLA Engineering
Distinguished Masters Thesis Award in Electrical Engineering, UCLA

Bryn Mawr College, PA, USA — 2011-2015
B.A., Physics, Minor: Computer Science, French [Magna Cum Laude] — GPA: 3.83/4.00

Selected Relevant Projects

- Large-Scale Data Mining Project Series on Classification and K-means Clustering of Newsgroup Data, Collaborative Filtering of MovieLens for Recommendation Systems.
- Simultaneous Control, Neural Networks & Mapping for Path Planning & Localization.
- Implement RRT* for Robot Path Planning, Kalman Filtering for State Estimation.
- Design & Implement Raw Electroencephalographic (EEG) Classification with Deep Learning (Implement and Compare Neural Networks with Different Architectures - CNN, VAE, RNN - to Decode Executed Tasks from the EEG Data).
- Reliability Study and Score Prediction of ImPACT Concussion Test with Machine Learning (Applied Regressions, KNN, SVM, Random Forest Classifier, Ensemble Learning).
- Finite Element Analysis and Micromagnetic Simulation for Modeling Multiferroics.

Selected Journal Publications

- **Z. Xiao** et al., "Tunable Magneto-elastic Effect in Voltage-Controlled Exchange-Coupled Composite Multiferroic Microstructures, ACS Applied Material & Interfaces (2020).
- **Z. Xiao** et al.,"Cytocompatible Magnetostrictive Microstructures for Nano- and Microparticle Manipulation on Linear Strain Response Piezoelectrics", IOP Multifunc. Mat. (2018).
- **Z. Xiao** et al.,"Bi-directional Coupling in Strain-mediated Multiferroic Heterostructures with Magnetic Domains and Domain Wall Motion", Scientific Reports (2018).
- R. Lo Conte, **Z. Xiao** et al.,"Influence of Nonuniform Micron-Scale Strain Distributions on the Electrical Reorientation of Magnetic Microstructures in a Composite Multiferroic Heterostructure", Nano Letter (2018).
- **Z. Xiao** et al., "Enhanced Magnetoelectric Coupling in a Composite Multiferroic System via Interposing a Thin Film Polymer, AIP Advances (2018).

Relevant Courses

- Foundations of Statistical Machine Learning • Computational Robotics
- Digital Image Processing • Neural Network and Deep Learning • Large-Scale Data Mining
- Artificial Intelligence • Natural Language Processing in TensorFlow • Intro to Data Science

Awards

2019 CESASC Scholarship, Anna and John Sie Foundation Scholarship, CA
2019 Best Student Presentation Award Winner, Joint MMM-Intermag Conference, DC
2018 Edward K. Rice Outstanding Masters Award, UCLA School of Engineering
2018 Best Paper Award Finalist (1/8), PowerMEMS Conference, Daytona, FL
2018-2019 ALS Doctoral Fellowship in Residence (10 worldwide), Berkeley National Lab, CA
2015 Big Data Fellowship, Center for Science of Information, PA

Relevant Skills

Development : Python, Java, MATLAB, SQL, R
Language : English, Chinese, French, German