Miu Lun (Andy) Lau, PhD

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EXECUTIVE SUMMARY | Active DoD Secret

Technical leader passionate about applying state of the art AI solutions to machine learning and multi-agent modeling and simulation systems.

PROFESSIONAL EXPERIENCE

BAE Systems, Inc. | **AI Subject Matter Expert** | **Held DoD Secret** — Arlington, VA
Sr. Scientist, APEX | FAST Lab — 02/2023 – Present

- Algorithm lead for AFRL Advanced Complexity Metric Evaluation (ACME) (**$450k**)
- Software engineer for AFRL Battle Management for AI (BMAI) **($3M)** | Rapidly Distributed Air Operations Center (RDAOC) (**$450k**)
- Algorithm and software engineer for IRAD programs | Developed local comprehensive RAG system using knowledge graph | Developed prototype system for detecting violation of operating spheres in Neural Network

Boise State University — Boise, ID
Research Assistant — 08/2018 – 02/2023

- Researched and developed *Neo* software package which optimizes *in-situ* EXAFS data, enabling speedup of **10x** and ability to interpret noisy real world data
- Lead developer on *Neo* software package, applied to Nano-Indentation, XES, and astronomy data
- Collaborated with Idaho National Laboratory to develop a thermoelectric digital twin multiphysics model of thermoelectric and heat-exchanger module using *MooseFramework*
- Advised **3** interns in Idaho National Laboratory and Boise State University
- Presented at **10** technical conferences in Material Science and Computer Science

SELECTED PUBLICATIONS (>20 TOTAL PUBLICATIONS, >300 CITATIONS)

- M. Lau, et al., *Chemical Engineering Journal* (2024) | Combining direct ink writing with reactive melt infiltration to create architectured thermoelectric legs
- M. Lau, et al., *Chemical Engineering Science* (2023) | Adsorption and Mechanical Study of 13X Zeolite
- M. Lau, et al., *Applied Surface Science* (2023) | AI based analysis of nano-indentation
- M. Lau, et al., *Journal of Vacuum Science and Technology A* (2023) | AI used to address reproducibility challenges in materials characterization? | Editor's Choice | Feature Article
- M. Lau, et al., Journal of Materials Research (2022) | Ion irradiation of amorphous TiO2 nanotubes
- M. Lau, et al., *Applied Surface Science* (2021) | Analysis of extended X-ray absorption fine structure (EXAFS) data using AI techniques

EDUCATION

Boise State University — Boise, ID
PhD, Computing, Emphasis on Computational Science and Engineering — 12/2023

Boise State University — Boise, ID
Bachelor of Science, Mechanical Engineering — 05/2018

TECHNICAL SKILLS AND ADDITIONAL INFORMATION

- **Expert**: Python | Excel/PowerPoint/Word/SharePoint | LaTeX | Git
- **Proficient**: MATLAB | C/C++ | Paraview | Solidwork | PyTorch & TensorFlow | LangChain
- **Currently Upskilling**: CUDA | Java | Docker | Rust
- **Interests**: Personal Finance & Investing | Robotics | Machine Learning & Deep Learning
- **Hobbies**: Running | Cooking | Camping | Drone