EMMA LIU

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EDUCATION

University of California, Los Angeles (UCLA) **Los Angeles, CA**
Bachelor of Science in Computer Science *Expected June 2025*

- 3.90 cumulative GPA

TECHNICAL SKILLS

- Programming Languages: Python, Java, C++
- Data Processing: Jupyter Notebook, Pandas, NumPy, SciPy
- Machine Learning: Scikit-Learn, Gensim, TextBlob, Natural Language Toolkit (NLTK)

RELEVANT EXPERIENCE

Microsoft **Redmond, WA**
Explorer Intern *June 2022 – Present*

- Build data pipeline for experiment data monitoring/analysis and evaluate functionality of new features
- Write scripts in Cosmos SCOPE script and Kustos Query Language for more granular aggregation of database resource monitor health

UCLA Ozcan Research Lab **Los Angeles, CA**
HHMI Research Intern *September 2021 – June 2022*

- Fabricated bi-layer metallic nanohole-based metasurfaces to classify MNIST digits in the UCLA NanoLab
- Co-authored and presented poster “Nanofabrication of Metasurface Deep Neural Networks” at HHMI Undergraduate Research Day

National Institute of Standards and Technology (NIST) **Gaithersburg, MD**
Pathways Intern *June 2019 – April 2022*

- Collect software and software metadata for the National Software Reference Library (NSRL)'s Reference Data Set
- Build dashboard with Bash script, Python, and HTML tracking real-time status of 80+ NSRL download machines
- Create and monitor AWS EC2 instances to aid in NSRL hashing work
- Received ITL Associates Reflection Award for work resulting in the NSRL receiving the 2020 Judson C. French Award

Youngstown State University **Youngstown, OH**
XSEDE-EMPOWER Intern *September 2021 – May 2022*

- Implemented parallel computing principles to streamline performance and improve efficiency of particle track predicting pipeline, reaching an average tracking efficiency of 0.9 and a tracking purity of 0.6
- Utilized Ohio Supercomputer Center resources to run simulation events, measuring pipeline efficiency and purity
- Co-authored paper “Accelerating the Inference of the Exa.TrkX Pipeline,” accepted for ACAT-2021

Johns Hopkins University Hopkins Extreme Materials Institute **Baltimore, MD**
Army Educational Outreach Program (AEOP) Apprentice *June 2021 - August 2021*

- Automated data pre-processing to train object detection model for tracking and analysis of point defects in microscope images; work improved F1 score on test frames from 0.1 to 0.6
- Co-authored presentation "Integration of Microscopy and Deep Learning to Define Localized Grain Boundary Sink Efficiency," accepted for 2022 TMS Annual Meeting & Exhibition

Johns Hopkins University Applied Physics Laboratory (APL) **Laurel, MD**
CIRCUIT-ASPIRE Intern *June 2020 - May 2021*

- Applied machine learning and natural language processing (NLP) skills as part of BLACKWELL project team to pre-process and cluster clinical notes and other electronic health records data
- Presented "Generalizable Precision Medicine Tools For Patient Cohort Discovery and Visualization to Aid Clinical Decision Making" at JHU DREAMS 2021 Spring Session