Felix Adams

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Education

University of Maryland (UMD) — *College Park, MD*
Ph.D. Materials Science and Engineering — *Expected Spring 2026*
B.S. Material Science and Engineering, GPA: 3.81 — *May 2021*

- Minor, Computer Science
- Honors College Citation: Design, Culture, and Creativity — *May 2019*

Papers

Felix Adams, Austin McDannald, Ichiro Takeuchi, and A. Gilad Kusne. *"Human-In-the-Loop for Bayesian Autonomous Materials Phase Mapping"*. 2024. Matter, Volume 7, Issue 2, Pages 697-709. https://doi.org/10.1016/j.matt.2024.01.005

Presentations

Oral:	"Quantum Kernel Machine Learning for Materials Science"	*MRS Spring 2025*
Poster:	"Quantum Kernel Machine Learning for Materials Science"	*UMD QMC Poster Session, 2024*
Oral:	"AI and Human-In-The-Loop for Autonomous Experimentation"	*MRS Fall 2022*
Poster:	"Artificial Intelligence And Human Collaboration In Human-In-The-Loop Materials Science Autonomous Experimentation"	*COMBI 2022*

Honors

Clark Doctoral Fellowship — *Fall 2021*
UMD Department of Materials Science and Engineering Chair's Outstanding Senior Award — *Spring 2021*

Skills & Tools

Python, Jupyter Notebooks, Qiskit, IonQ API, Linux, Vector Graphics (Inkscape)

Undergraduate Research & Experience

Computational Study of Li-Mg-B-H System for Hydrogen Storage — *August 2020 - May 2021*
Capstone Project — *University of Maryland, College Park, MD*

- Led a team of 6 students to calculate the Hydrogen storage properties of Li-Mg-B alloys using Density Functional Theory and Metropolis Monte Carlo run on the UMD High Performance Computing Center
- Wrote Python code to pull data from the Materials Project database and analyze simulation data
- Showcased project results to MSE department faculty and guests

NIST Summer Undergraduate Research Fellowship — *June 2020 - August 2020*
Internship — *NIST Material Measurement Laboratory, Gaithersburg, MD*

- Ran Molecular Dynamics computer simulations using the Large-scale Atomistic / Molecular Massively Parallel Simulator on two High Performance Computing Centers
- Developed programs to automate the data generation and analysis procedures using Python and bash scripts
- Produced 200+ GB of simulation data for analyzing polymer nanocomposite interphase dynamics

NASA Glenn Research Center Summer Internship *June 2019 - August 2019*
Internship *NASA Glenn Research Center, Cleveland, OH*

- Independently developed a graphical user interface based MATLAB application (~8,000 lines of source code) to automatically analyze Shape Memory Alloy test data
- Packaged the application into an executable format for eventual public distribution
- Assessed application performance, wrote a formal report with the results, and presented the application to NASA employees

Transportation Electrification Research Experience for Undergraduates *June 2018 - August 2018*
Research Student *College Park, MD*

- Designed a continuous heat treatment device for a novel nanoparticle synthesis technique
- Presented design individually to graduate student and faculty mentors, as well as in a trade show / poster fair
- Discussed engineering ethics with faculty and peers and applied them in a research laboratory setting

Northrop Grumman Remote Sensing Student Challenge *February 2018 - April 2018*
Participant *College Park, MD*

- Worked with 3 other students to write MATLAB scripts to use data from a radar development kit to detect drones
- Studied radar technology and signal processing techniques, then implemented them in MATLAB
- Developed a Graphical User Interface using MATLAB's app builder environment

Gomoku Machine Learning Project *January 2018 - January 2020*
Independent

- Studied machine learning and artificial neural networks with the goal of writing a Python program to learn to play the board game Gomoku
- Implemented a parallel Monte Carlo Tree Search based on DeepMind's AlphaGo Zero (2017)

Maryland Unmanned Aerial Systems Team *October 2017 - May 2018*
Member *College Park, MD*

- Developed a Python script to check if the path of an autonomous fixed wing aircraft intersects virtual obstacles
- Used Git to integrate code into the full project and to coordinate development with one other student
- Awarded 11th out of 63 teams in a Student Unmanned Aerial Systems team hosted by the Association for Unmanned Vehicle Systems International

OTHER ACTIVITIES

Neighborhood Planning Academy *November 2024*
Graduate *Prince George's County Planning Department*

- Participated in a 7 – week evening course offered by the Prince George's County Planning Department of the Maryland – National Capital Parks and Planning Commission
- Learned about the Prince George's County planning and development procedures and transportation, sustainability, and resilience plans
- Developed and presented planning suggestions for the area around the Hyattsville Crossing Metro Station to Prince George's County Planning Board officials