

Mira Welner

Machine Learning and Computer Vision Researcher — Computer Scientist — Software Engineer

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EDUCATION

University of California, Davis

Computer Science Engineering

September 2018 — June 2022

Overall GPA: 3.55 — Major GPA: 3.65

Skills: Python3 | Tensorflow | Keras | Scikit-learn | Jupyter Notebooks | HTML3 and CSS3 | C++ | Java | MATLAB | Wireshark

CURRENT PROJECTS AND ACTIVITIES

Carnegie Mellon Image Science Labs Undergraduate Researcher | Computer Vision 2020-present

- Designing an autoencoder to compress large hyperspectral images into their respective material maps and spectra based on hypersepectral and material properties.
- Studying with Professor Aswin Sankaranarayanan, working with graduate students on parallel pipelining.

Tagkopolous Labs Undergraduate Researcher | Natural Language Processing 2020-present

- Working with advanced natural language processing systems such as BERT to design and implement machine learning models which create accurate and useful word embeddings for food science research.
- Programming predictive models to determine the likelihood that certain medical experiments (specifics under NDA) will provide accurate and generalizable results which are effective outside of laboratory environments.

PAST PROJECTS AND ACTIVITIES

Bear Laboratories Researcher | Robotics 2019-2021

- Performed research for Professor Schofield at UC Davis. Programmed a myoelectric signal detection band to interpret new gestures, allowing the MyoBand to control a robotic hand connected to a Raspberry Pi 4.
- Designed methods to analyze children's gestures to obtain data for the prosthetic arm.
- Awarded a Provost Undergraduate Fellowship

UC Davis HyperLoop team President | OneLoop 2019-2021

- Led UC Davis OneLoop team in researching, designing, and manufacturing the Davis pod to be raced the annual HyperLoop competition.
- Managed the addition of cutting edge technologies such as linear induction motors and eddy current braking.
- Prepared the team for the European HyperLoop symposium taking place this year

UC Davis Cybersecurity Team 'Capture the Flag' Coordinator | Computer Security 2018-2019

- Led the UC Davis Cybersecurity Team in the Collegiate Penetration Testing Competition in obtaining access to the targeted computer system.

Lawrence Livermore National Laboratories Summer Scholar | Software Engineering Summer 2019

- Updated, refactored, and designed unit tests for the six million line Java codebase that runs the National Ignition Facility
- Presented my research at the Student Poster Symposium

Gem5 Web Application Developer | Web Development Spring 2019

- Developed a web application to be used by Professor Lowe-Power at UC Davis.
- The application interacts with and displays the results of the Gem5 simulator, a virtual machine used by Google and other companies for studying computer architecture
- Enabled the lab to conduct research on Gem5 more efficiently

Researcher for Professor Matthew Bishop | Computer Security 2018-2019

- Worked in a cybersecurity research team led by Professor Matthew Bishop
- Studied the security vulnerabilities of the Python language and analysed vulnerabilities Yolo County voting machines

Orbital Propagator Designer | Software Engineering 2018-2019

- Led a programming team in designing an orbital propagator: a program that takes in data involving a satellite's position and uses orbital mechanics to predict future location.
- The orbital propagator will be used in a 2U Cubesat that will be launched by UC Davis to observe and record the effects of climate change on the Earth

AWARDS AND FELLOWSHIPS

Accepted to Grainger Engineering 2021 MERGE at the University of Illinois Urbana-Champaign | 2021

Provost Undergraduate Fellowship Award | 2020

Graduate Diverse Genders in Computer Science and Engineering Grace Hopper Scholarship | 2020

UC Davis Engineering Dean's List, Winter Quarter | 2019

1st Place UC Davis Designathon | 2018