

Gabriel Simmons

EDUCATION	University of California, Davis Doctor of Philosophy, Computer Science Fall 2020 - expected grad. Spring 2025 <i>Advisor:</i> Ilias Tagkopoulos
	Bachelor of Science, Mechanical Engineering Fall 2014 - Spring 2019 Minor in Computer Science
HONORS AND AWARDS	University Honors Program 2014 - 2019 UC Davis Regents Scholarship 2014 - 2019 Phi Kappa Phi Honor Society 2019
PUBLICATIONS	Chin EL, Simmons G , Bouzid YY, Kan A, Burnett DJ, Tagkopoulos I, Lemay DG. Nutrient Estimation from 24-Hour Food Recalls Using Machine Learning and Database Mapping: A Case Study with Lactose. <i>Nutrients</i> . 2019; 11(12):3045.
RESEARCH EXPERIENCE	Integrative Biology and Predictive Analytics Lab Fall 2020 - present <i>Advisor:</i> Dr. Ilias Tagkopoulos <ul style="list-style-type: none">- Applying computational techniques including natural language processing to nutrition and food systems
	Milk, Health, and Genetics Spring 2019 <i>Mentors:</i> Dr. Ilias Tagkopoulos, Dr. Danielle Lemay <ul style="list-style-type: none">- Applied computational techniques to investigate the association of lactose intake with markers of cardiovascular, bone, prostate, and gut health- Developed a machine learning model to predict food lactose content
	Cyber-Human-Physical Systems Lab at UC Davis 2017 - 2019 <i>Mentors:</i> Dr. Nelson Max, Dr. Zhaodan Kong <ul style="list-style-type: none">- “<i>Augmented Reality Multi-player Quadrotor Game</i>” Fall 2017 - Spring 2019- “<i>EEG-Based Brain-Controlled Mobile Robot</i>” Spring 2017
PRESENTATIONS	ASN Nutrition Online 2020 <i>“Identification of Differential, Health-Related Compounds in Chardonnay Marc through Network-Based Meta-Analysis”</i>
	National McNair Scholars Conference at UCLA 2018 <i>“Augmented-Reality Multi-Player Quadcopter Game System: Localization and Control”</i>
	UC Davis Undergraduate Research Conference <i>“Augmented-Reality Multi-Player Quadcopter Game System”</i> 2018 <i>“EEG-Based Brain-Controlled Mobile Robots: Insights and Lessons”</i> 2017
TEACHING EXPERIENCE	University of California, Davis Teaching Assistant: ECS289G Deep Learning Fall 2020
WORK EXPERIENCE	Process Integration and Predictive Analytics, LLC. <i>Data Scientist</i> Fall 2019 - present <i>Data Science Intern</i> Summer 2019 <ul style="list-style-type: none">- Led an exploratory investigation to identify the bioactive constituents, potential human health effects, and valorization potential of an agricultural side stream.- Contributed to production-level python package for standardized omics analysis

CalEPA Office of Environmental Health and Hazard Assessment (OEHHA)

Engineering Student Intern

Fall 2018 - Spring 2019

- Contributed to data management and analysis for study assessing the risks of exposure to crumb rubber in synthetic turf fields

Hill Engineering, LLC.

Mechanical Engineering Intern

Summer 2017

- Designed and programmed computer vision-based retrofit device to automate electrical discharge machine cutting tasks
- Designed custom parts for residual stress testing applications in SolidWorks

Knight-Williams Research Communications

Research Associate

2012 - 2019

- Performed statistical analysis and visualization of survey data for NSF-funded educational media projects using Microsoft Excel
- Automated document-building tasks to increase efficiency using Python and VBA
- Trained other associates to perform tasks including data entry and visualization

PROJECTS

FastText Word Embeddings Improve Prediction of Diet Success  2018

Trained a FastText word embedding model using food diary records logged by 9.9K MyFitnessPal users. The word embeddings were used to classify users as being typically above or below their caloric intake goals, and our method resulted in an 8% increase in classification accuracy over the methods in *Insights from Machine-Learned Diet Success Prediction (Weber, et. al.)*.

ACTIVITIES & SERVICE

MentorCollective Alumni Mentor to UCD Engineering undergraduates	2020
Guest Speaker - MARI WorkX High School Summer Internship Program	2020
Black Engineers Association Undergraduate Research Panelist	2019
Unmanned Aerial Systems Journal Club	2018

SKILLS

Programming Languages: Python, R, C/C++, MATLAB, VBA, JavaScript

Software: Git, Jupyter, MS Office

Relevant Coursework:

- Machine Learning
- Deep Learning
- Optimization
- Statistics and Probability for Computer Science
- Natural Language Processing
- Computer Vision
- Information Interfaces
- Scientific Computation
- Data Structures and Algorithms