Gabriel Simmons

LinkedIn: linkedin.com/in/gabriel-simmons   g-simmons.github.io

RESEARCH INTERESTS	Artificial intelligence, human wisdom, human morality. Societal preparedness for increasingly capable AI systems.

EDUCATION

University of California, Davis

M.S. Computer Science	Fall 2020 - Spring 2023
B.S. Mechanical Engineering Minor in Computer Science	Fall 2014 - Spring 2019

HONORS AND AWARDS

University Honors Program	2014 - 2019
UC Davis Regents Scholarship	2014 - 2019
Phi Kappa Phi Honor Society	2019

PUBLICATIONS

Simmons G. Moral Mimicry: Large Language Models Produce Moral Rationalizations Tailored to Political Identity. ArXiv. 2022.

Simmons G, Lee F, Kim M, Holt R, Tagkopoulos I. Identification of Differential, Health-Related Compounds in Chardonnay Marc through Network-Based Meta-Analysis. Curr Dev Nutr. 2020;4(Suppl 2):475.

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. Nutrients. 2019; 11(12):3045.

RESEARCH

Moral Foundations and Large Language Models   Summer 2022 - Fall 2022
Advisor: Dr. Dipak Ghosal
- Exploring whether large language models like GPT3 can mimic the moral biases associated with political groups.

Integrative Biology and Predictive Analytics Lab   Fall 2020 - Spring 2022
Advisor: Dr. Ilias Tagkopoulos
- Developed NLP tools using natural language inference to extract structured food composition data from scientific publications. *This work was funded by the AI Institute for Next Generation Food Systems.*

Milk, Health, and Genetics   Spring 2019
Mentors: Dr. Ilias Tagkopoulos, Dr. Danielle Lemay
- 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
- Implemented a fast fuzzy matching algorithm to align food names across databases

Cyber-Human-Physical Systems Lab at UC Davis   2017 - 2019
Mentors: Dr. Nelson Max, Dr. Zhaodan Kong
- *"Augmented Reality Multi-player Quadrotor Game"*   Fall 2017 - Spring 2019
- *"EEG-Based Brain-Controlled Mobile Robot"*   Spring 2017

PRESENTATIONS   **ASN Nutrition Online**   2020
"Identification of Differential, Health-Related Compounds in Chardonnay Marc through Network-Based Meta-Analysis"

National McNair Scholars Conference at UCLA 2018
"Augmented-Reality Multi-Player Quadcopter Game System: Localization and Control"

UC Davis Undergraduate Research Conference
"Augmented-Reality Multi-Player Quadcopter Game System" 2018
"EEG-Based Brain-Controlled Mobile Robots: Insights and Lessons" 2017

TEACHING EXPERIENCE	**University of California, Davis**	
	Guest Lecturer: NUB201C Advanced Nutrition III	Spring 2021, Spring 2022
	Teaching Assistant: ECS289G Deep Learning	Fall 2020
	Teaching Assistant: ECS132 Probability and Stats for CS	Winter 2022

WORK EXPERIENCE

Process Integration and Predictive Analytics, LLC.
Data Scientist 2019 - 2022
- Lead developer of internal tools to assist domain experts in data curation and document labeling tasks.
- Led the data science functions of an exploratory investigation to identify the bioactive constituents, potential human health effects, and valorization potential of an agricultural side stream.

Wyzant Tutoring

Python and Machine Learning Tutor 2019 - present
- Helped dozens of undergraduate-level students and adult learners with Python, machine learning, and natural language processing coursework and projects
- Tutored for over 250 hours with over 100 five-star ratings

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

ACTIVITIES & SERVICE	Invited Speaker: WellVine Chardonnay Marc Science Symposium	Sept 2021
	Natural Language Processing Reading Group	2020-2021
	Undergraduate Research Supervisor	2020-2022
	MentorCollective Alumni Mentor to UCD Engineering undergraduate	2020
	Guest Speaker - MARI WorkX High School Summer Internship Program	2020
	Black Engineers Association Undergraduate Research Panelist	2019
	Unmanned Aerial Systems Journal Club	2018