Audrey Nguyen

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EDUCATION

University of California, Irvine | Bachelor of Science in Computer Science September 2021 - June 2024
GPA: 3.84 / 4.0
Relevant Coursework: Machine Learning and Data-Mining, Design & Analysis of Algorithms, Introduction to Artificial Intelligence, Data Structure Implementation & Analysis, Introduction to Data Management, Discrete Mathematics, Linear Algebra, Introductory Computer Organization, User Interaction Software

RESEARCH INTERESTS

Artificial Intelligence, Machine Learning, Data Science, Learning Analytics, Game-Based Assessments, Large Language Models, Natural Language Processing, Augmented Reality, Prompt Engineering, Deep Learning, Computer Vision, Education, Social Good

RESEARCH EXPERIENCE

Digital Learning Lab October 2023 - Present
Research Assistant
Advisors: Tamara Tate, PhD. and Daniel Ritchie, PhD Student
PapyrusAI is a pedagogical-informed AI writing platform that ensures accessible and permitted use of AI for hundreds of undergraduates in engineering writing courses. I will assist in the development of large language models with Amazon Bedrock through fine-tuning, retrieval-augmented generation, and automated scoring. I will also mentor CP-LEADS fellows from the next cohort.

Design and Partnership Lab | UCI Summer Undergraduate Research Program (SURP) February 2023 - Present
Researcher
Advisors: June Ahn, PhD. and John Lopez, PhD Student
Pioneered an interdisciplinary and cross-institutional research project to develop a *Phocrastination*, a novel game-based assessment designed to assess procrastination. Implemented a rigorous learning analytics game design process, developed a fully-functional game on Unity with commissioned art in one summer, convenience-sampled and conducted a pilot study of 80 participants, and analyzed and achieved predictive validity.

Design and Partnership Lab | UCI Undergraduate Research Opportunities Program (UROP) January 2023 - May 2023
Research Assistant
Advisors: June Ahn, PhD. and John Lopez, PhD Student
With a focus on predictive learning analytics, used machine learning to validate *Fraction Ball: Exactly*, a game-based assessment designed to evaluate the development of executive function in children. Contributed to data cleaning, feature selection, creation of Support Vector Machine models, and analyzing their performance within the context of pilot study.

Career Pathways for Research in Learning, Education, Analytics, & Data Science January 2023 - December 2023
Data Science Research Fellow
Advisors: June Ahn, PhD. and Fernando Rodriguez, PhD.
Accepted into the inaugural cohort of the year-long fellowship from the UCI School of Education to increase pathways into doctoral programs. Developed proficiency in Research Methods, Machine Learning, Data Science, Learning Analytics, and Game Development with independent research projects.
Skills: C#, Python, R, Machine Learning, Supervised Learning, Game Development, Unity, Data Science, Learning Analytics, Design Research

PRESENTATIONS

Nguyen, A., & Nguyen, S. (November 2023). "Phocrastination: A Game-Based Approach to Assessing and Classifying Academic Procrastination in College Students." Paper presented at the 2023 Southern California Conference for Undergraduate Research, Fullerton, CA.

Nguyen, A. (May 2023). "Classifying Planning Skills in Children with Machine Learning" (poster). Poster presented at the 30th Annual UCI Undergraduate Research Symposium, Irvine, CA.

Nguyen, A. (June 2023). "Classifying Planning Skills in Children with Machine Learning" (poster). Poster presented at the UCI Working Memory and Plasticity Lab 6th Annual Undergraduate Symposium, Irvine, CA.

HONORS AND AWARDS

UCI Summer Undergraduate Research Program June 2023
Awarded $1500 grant to conduct and present research at annual research symposium

Dean's Honors List September 2021 - Present
GPA of 3.5 or higher for five quarters at UCI

PROFESSIONAL EXPERIENCE

UCI Stacy Nicholas Office of Outreach, Access, and Inclusion | Irvine, CA September 2022 - Present
Web Administrator
Design, update, and facilitate maintenance of OAI sites. Compile meaningful resources and circulate a weekly newsletter for an audience of nearly 100 transfer students in the S-STEM Pathways to Engineering Collaborative, a program funded by the National Science Foundation to increase retention for underrepresented minorities.
Skills: HTML, Wordpress

UCI Stacy Nicholas Office of Outreach, Access, and Inclusion | Irvine, CA June 2022 - September 2022
Student Assistant
Instructed five summer programs and collaborated with colleagues to develop material on Raspberry Pi, Python, R, & Onshape for 100+ middle to college level students with underrepresented backgrounds. Provided guidance, mentorship, and a sense of community; fostered equity, opportunity, and a love for STEM.

Information & Computer Science Student Council Fellowship Program January 2022 - March 2022
Fellow
Learned fundamental skills in software & web development. Built a personal website and web application using HTML, CSS, JavaScript, React, and GraphQL. Improved personal branding and contributed to open source projects from ICCSC with tens of thousands of users.

LEADERSHIP EXPERIENCE

Hack at UCI | Irvine, CA November, 2023 - Present
Mentor
Mentored a team of 4 students from multiple disciplines for the 12-hour beginner-friendly ZotHacks. Guided them from ideation to design to development as they developed AntHill, a web app to help users choose dining options on or near campus. Assisted learning of Yelp's API, HTML, Bootstrap CSS, Javascript, and Flask.

Randy Lewis All-University Leadership Conference | Anaheim, CA October 2022
Attendee
Participated in UCI's premier leadership gathering of 150 aspiring student leaders for personal and academic development. Connected with faculty and staff to address the campus' political, social, and cultural issues. Attended workshops on soft skills development, social justice, mental health, and community building.

PROJECTS

Phocrastination | *https://phocrastination1.vercel.app/* February 2023 - Present
Developed a game-based assessment to assess procrastination. Implemented iterative design process with storyboarding, domain mapping, and user testing. Developed with C#, Unity, Git, and Vercel. Collected data on Firebase and analyzed with Python and R on Deepnote. Predictive modeling achieved through feature engineering, feature selection, cross validation, and Support Vector Machines.

Rheia | *https://tinyurl.com/y3wd8h8p* June 2023
Novel solution to STI early intervention and contact tracing with data-driven healthcare application; facilitate communication and accountability for disease intervention specialists and physicians. Responsible for data cleaning, connecting Support Vector Machine model with backend Flask web server, and prototyping and frontend development with Svelte and Tailwind CSS.

skincare.io | *https://devpost.com/software/skincare-io* May 2023
A minimalistic, user-friendly, and innovative solution to skincare recommendations; generates comprehensive routines based on users' skin type and goals from a dense database of the latest products, ingredients, and benefits. Collaborated in a team at 4 at VenusHacks, UCI's largest women-centric hackathon; assumed a leadership role. Responsible for web scraping with Puppeteer library, and frontend development with Tailwind CSS & Typescript.

Mischief in Montreal | *https://devpost.com/software/mischief-in-montreal* April 2023
Utilized data analytics and machine learning on a dataset of 250,000 observations to gain a deeper understanding of the criminal landscape and political climate of Montreal, Canada in order to formulate effective policies. Collaborated in a team of 4 at the Embark Datathon, UCI's first datathon; awarded Best Overall and People's Choice. Responsible for data analytics using the Pandas, NumPy, and Plotly libraries, and leading and organizing the team.

ZotHome | *https://devpost.com/software/zothome* February 2023
Consolidation of 6 ACC housing websites into a reliable, intuitive mobile app with filtering capabilities, map view, and updating database; built with the demands for housing stability of UCI students in mind. Collaborated in a team of 4 at HackUCI, Orange County's largest collegiate hackathon with 400+ attendees. Responsible for inserting web scraped data into CockroachDB database with Javascript, Python, and Postgresql, and creating a backend API with Vercel to allow for requests from frontend React Native app.

Augmented Play November 2022
Participated in a month-long design hackathon to engage parents in understanding and applying STEAM concepts while facilitating their children's play at the Pretend City Children's Museum. Pitched a mobile application prototype utilizing augmented reality and GPS system to identify markers around the museum and facilitate crowd control.

Commutr Course | *https://devpost.com/software/petr-planner* May 2022
Schedule creator geared towards commuters; creates the optimal schedule while minimizing days & hours on campus. Collaborated in a small team at VenusHacks, UCI's largest women-centric 36-hr hackathon with the mission to empower underrepresented groups; was awarded Best use of PeterPortalAPI. Responsible for developing an intuitive and eye-catching user interface with Javascript, CSS, HTML, React, and Figma; managed organization and version control through Github.

TECHNICAL SKILLS

Languages: Python, C++, R, C#, CSS, Javascript, Typescript, HTML, MIPS Assembly, Java, SQL
Developer Tools: Scikit-Learn, Unity, Jupyter Notebook, RStudio, Figma, Visual Studio Code, Eclipse, Deepnote
Technologies: React, Vercel, Github, Git, Flask, Postgresql, AWS

REFERENCES

June Ahn
Title: Professor
Relationship: Principal Investigator
Email: junea@uci.edu

Fernando Rodriguez
Title: Associate Professor
Relationship: Faculty Mentor
Email: fernanr1@uci.edu

Marvin Josele Maldonado
Title: Undergraduate Programs Lead
Relationship: Faculty Supervisor
Email: marvin.maldonado@ucop.edu