

Ronald Nap

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EDUCATION

University of California, Berkeley
Master of Information and Data Science

GPA: N/A
September 2024 - September 2025

University of California, Merced
Bachelor of Applied Mathematics, Emphasis in Data Science

GPA: 3.71
August 2020 - May 2024

Coursework: [Data Structures](#), [Applied Statistics](#), [Numerical Linear Algebra](#)

Awards: [Outstanding Undergraduate](#)

EXPERIENCE

Valeo
Machine Learning Software Engineer Intern

San Mateo, CA
July 2024 - Present

- Researching and developing advanced methods for Deep Feature Matching to enhance autonomous parking systems.

Computational Optimization Group

Merced, CA

Undergraduate Researcher | Supervisor: Roummel Marcia

February 2023 - May 2024

- Developed a novel [two-stage weakly supervised framework](#) for the classification of Whole Slide Images in Pathology.
- Obtained state-of-the-art results leveraging **Contrastive Learning** and **Multiple Instance Learning**.
- Wrote [conference paper](#) as first author, leading to acceptance for publication and presentation at IEEE EMBC 24.

Summer Undergraduate Research Institute

Merced, CA

Undergraduate Researcher

June 2023 - August 2023

- Implemented a **Generative Adversarial Network** to generate synthetic training data to address data scarcity.
- Designed an [iterative refinement process](#) that evaluated and selected high-quality synthetic images for retraining.
- Enhanced baseline classification model by F1 score of 0.04 through the integration of synthetic training data.

Lawrence Livermore National Laboratory

Livermore, CA

Data Science Intern

July 2023 - August 2023

- Engineered **Long Short-Term Memory** based classification models to diagnose irregular heartbeats.
- Built and optimized **Convolutional Neural Networks** for precise reconstruction of cardiac transmembrane potentials.
- Showcased findings through a [poster presentation](#) to a diverse scientific audience of colleagues, researchers, and staff.

PROJECTS

🔗 DigitPro99

January 2024 - Present

- Developed an interactive web-based [digit recognition application](#) using **JavaScript**, **CSS**, and **HTML**.
- Implemented **ONNX** for model operations and **Firestore** for dynamic storage management and retrieval of images/labels.
- Capable of real-time prediction, comprehensive user interactions, dynamic image annotation, and data retrieval.

🔗 Lung Cancer Diagnosis with Medical Imaging

October 2023 - December 2023

- Analyzed and experimented with a multi-class dataset of 25,000 medical images focusing on lung cancer tissues.
- Implemented Logistic Regression, Decision Tree, Random Forest, Support Vector, VGG, and ResNet models.
- Examined the performance and trade-offs of traditional machine learning models against deep learning models.

🔗 Modeling the Relationship Between CO2 Emissions and Human Population

March 2023 - May 2023

- Constructed **mathematical models** to analyze the correlation between CO2 emissions and human population dynamics.
- Employed least squares optimization and non-linear regression for **parameter estimation** and precise data fitting.

LEADERSHIP

STEM Tutoring Hub

Merced, CA

Instructional Learning Assistant

August 2022 - May 2024

- Assisted individuals and groups of students with calculus by adapting my teaching style to suit the audience.

Society for Industrial and Applied Mathematics (SIAM)

Merced, CA

Undergraduate Representative

August 2023 - May 2024

- Organized events and activities to promote **mathematics** and its applications among students.

Association for Computing Machinery (ACM)

Merced, CA

Data Science Interest Group Lead

January 2024 - May 2024

- Created and led workshops focused on **Data Science**, guiding and interacting with 50+ undergraduate students.

TECHNICAL SKILLS

Languages: Python, C++, R, SQL, Matlab, LaTeX

Technologies: Git, AWS, Docker, Hugging Face, SLURM, ONNX

Libraries: PyTorch, Tensorflow, SciKit, NumPy

Web Development: JavaScript, CSS, HTML, Flask, React