

Ronald Nap

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EDUCATION

University of California, Berkeley

August 2024 - May 2026

Master of Information and Data Science

GPA: *IP*

University of California, Merced

August 2020 - May 2024

Bachelor of Applied Mathematics, Emphasis in Data Science

GPA: 3.71

Courses: Data Structures, Applied Statistics, Numerical Linear Algebra, Stochastic Processes, Mathematical Optimization

Awards: [Outstanding Undergraduate Student Award](#)

Certificates: Google Data Analytics, TensorFlow Developer

WORK EXPERIENCE

Valeo

San Mateo, CA

Machine Learning Software Engineer Intern

July 2024 - Present

- Developed perception models for visual simultaneous localization and mapping of a multi-floor parking garage.
- Quantized and distilled semantic segmentation networks resulting in a **50%** reduction in memory usage.
- Converted PyTorch and Tensorflow models to ONNX and TensorRT resulting in a **40%** reduction in inference time.

Computational Optimization Group

Merced, CA

Machine Learning Researcher

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, multiple instance learning, and transfer learning.
- Wrote and first authored a [conference paper](#) accepted for publication and presentation at IEEE EMBC 2024.

Summer Undergraduate Research Institute

Merced, CA

Machine Learning Researcher

June 2023 - August 2023

- Trained a Wasserstein generative adversarial network to generate synthetic images to address data scarcity.
- Engineered an [iterative refinement pipeline](#) that evaluated and selected high-quality synthetic images for retraining.
- Boosted classification performance resulting in a **+0.05** increase in F1 score and a **+0.03** improvement in AUROC.

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.
- Delivered a well-received [poster presentation](#) to a diverse scientific audience of colleagues, researchers, and staff.

PROJECTS

DigitPro99 | [Github](#) | [Website](#)

2024

- Developed and deployed an interactive web-based digit recognition application capable of real-time prediction.
- Integrated Firebase database for efficient image and label storage enabling dynamic data management and retrieval.

Lung Cancer Analysis | [Github](#) | [Paper](#)

2023

- Conducted a comparative analysis between traditional machine learning methods and deep learning architectures.
- Identified and examined the performance trade-offs optimizing for accuracy and computational efficiency.

Forecasting Emissions and Population | [Github](#) | [Paper](#)

2023

- Constructed predictive mathematical models to analyze the correlation between CO2 emissions and human population.
- Fine-tuned parameters incorporating key environmental features resulting in highly accurate short-term predictions.

LEADERSHIP

STEM Tutoring Hub

Merced, CA

Instructional Learning Assistant

August 2022 - May 2024

- Assisted groups of students with mathematics and statistics by adapting my teaching style to match the audience.

Association for Computing Machinery (ACM)

Merced, CA

Data Science Group Lead

January 2024 - May 2024

- Created and led data science, artificial intelligence, and computer science workshops with **50+** undergraduate students.

TECHNICAL SKILLS

Programming Languages: Python, C++, SQL, R, Matlab, Bash/Unix, LaTeX, HTML, CSS, JavaScript

Libraries: PyTorch, Tensorflow, Keras, Scikit-learn, OpenCV, Torchvision, MMCV, xFormers, Transformers, TorchScript

Technologies: AWS, Docker, ONNX, CUDA, TensorRT, HuggingFace, CVAT, Blender, Colmap, React, Tableau, PySpark

Tools: Git, VS Code, Jupyter Notebook, Slurm, Conda, Microsoft (PowerPoint, Excel, Word), Linux, Windows, MacOS