Vincent Niedermayer

(412) 638-7447 | vmn16@pitt.edu | linkedin.com/in/vincentniedermayer | github.com/vnieder

Education

UNIVERSITY OF PITTSBURGH Pittsburgh, PA

B.S. Major in Applied Math, Minors in Computer Science and Physics *Expected Graduation: April 2027*

- Coursework: Data Structures & Algorithms, Statistics, Linear Algebra, Real Analysis, Machine Learning

Professional Experience

AI/ML Engineering Intern April 2025 – Present

AMAZON WEB SERVICES Cloud Innovation Center *| EC2, S3, Lambda, API Gateway, DynamoDB*

- *SMS Marketing Pipeline:* Built serverless SMS workflow with **API Gateway**, **Lambda**, SNS, backed by a **retrieval-augmented** LLM, to enable real-time fan engagement and ticket information for Pitt Athletics
- *Diving CV Scoring:* Designed frontend for real-time dive scoring tool, using Rekognition for computer vision and **DynamoDB database**, auto-extracting metrics and plotting performance improvements
- *CIC Landing Page:* Deployed S3/CloudFront static site; integrated a **Bedrock RAG LLM** chatbot widget

Artificial Intelligence Scholar June 2023 – July 2023

CARNEGIE MELLON UNIVERSITY AIS Program *| Python, TensorFlow, Keras, Sklearn, OpenCV, Flask*

- Implemented a convolutional neural network with **OpenCV** and **TensorFlow** for facial recognition, achieving a **testing accuracy of 98%**, into a frontend with **Flask** endpoints for live emotion prediction
- Researched leading AI architectures including **recurrent neural networks** (RNNs), long short-term memory (LSTMs), **autoencoders**, transformers (e.g. GPT); completed CMU equivalent coursework

Projects

Co-Founder, Clef App *| Flutter, Dart, Firebase, CI/CD, Docker, PostgreSQL, React* Aug 2024 – Feb 2025

- Scaled social media presence to **53.1 million** profile views, resulting in a **2,636% increase** in followers
- Built landing page and integrated **ConvertKit API**, growing our email list to **1,000+ subscribers**
- Utilized **Flutter** widget library and **Material Design** for rapid UI prototyping and cross-platform builds
- Deployed discrete containers via **Docker** and leveraged GitHub **CI/CD** pipelines for automated testing and seamless deployment. Employed **Git** in **Bash** terminal for team collaboration and version control
- Pitched at the “Kuzneski Cup”, securing a **$2,000** startup grant to fund development expenses

Research Experience

Machine Learning Researcher – Physics Modeling October 2024 – Present

Project 8 Collaboration, YALE UNIVERSITY *| Python, PyTorch, Matplotlib, Numpy, Conda, HPC*

- Developed **U-Net** for electron frequency spectrogram segmentation to determine the neutrino’s mass
- Designed **Time Series GAN** with **transformer architecture** to generate electron energy frequencies
- Accessed Yale University’s **High Performance Computing** cluster via secure SSH for model training
- Utilized **Matplotlib** for model performance evaluation, **data visualization**, and reconstruction plotting

Astrophysics Undergraduate Researcher June 2023 – April 2025

Allegheny Observatory, UNIVERSITY OF PITTSBURGH *| Python, Pandas, Astropy, ImageJ, Seaborn*

- Devised automated **data processing pipeline** and telescope operating **documentation** for all users
- Independently detected **10+ Exoplanet Transits** via remote operation of the 24” Keeler Telescope
- Utilized AstroImageJ and **Astropy** to employ **differential photometry** to visualize transit light curves

Technical Skills

Programming Languages: Python, R, JavaScript, TypeScript, Java, C, C++, C#, Dart, SQL, MATLAB
Data Science & Machine Learning: Tensorflow, Keras, Sklearn, Pandas, Numpy, Scipy, Matplotlib, Seaborn
Web Development & DevOps: AWS, React, Next.js, Flask, Flutter, Firebase, Docker, GitHub Actions CI/CD