Ludovico Federici

+1 (510) 604-6727 | ludofederici@berkeley.edu | ludovicofederici | ludovicofederici.com | ludofederici

Collaborative **Software and Machine Learning Engineer** with expertise in leading cross-functional projects and applying AI techniques to deliver actionable insights. Motivated by continuous learning and feedback, I am passionate about leveraging tech and entrepreneurial problem-solving to drive innovation and measurable impact.

Education

University of California, Berkeley | Berkeley, CA **Grad. Dec 2024**
B.A. Computer Science, B.A. Cognitive Science, Minor in Data Science *3.98 GPA*

- **Awards and Recognitions**: Nova 111 Italy Student List, Sutardja Center Certificate in Entrepreneurship & Technology, Cal Alumni Association Leadership Scholarship (2023/2024), Dean's List, Honors To Date
- **Relevant Coursework**: Artificial Intelligence, Efficient Algorithms, Database Systems, AI for Healthcare
- **Organizations**: Neurotech@Berkeley, NextGen Consulting at UC Berkeley, Nova Talent, LeadTheFuture

Technical Skills

AI & ML: scikit-learn, Deep Learning (TensorFlow and PyTorch), LLMs, CNNs, Hyperparameter Tuning, NLP.
Data Science & Engineering: Python (Pandas, NumPy, Seaborn, Matplotlib), SQL, Tableau, BigQuery, dbt, FiveTran.
Programming Languages: Python, C, Dart (Flutter), Go, Java, JavaScript, HTML, CSS, x86 Assembly, RISC-V.

Work Experience

Spotify | New York, NY **Jun 2024 – Aug 2024**
Data Science Intern, Podcast Mission Insights

- Spearheaded a cross-functional project across 3 teams (product, engineering, and marketing) to identify key success drivers for video content, segmenting creators by video type & shaping video integration strategy for **190M+ MAU**.
- Analyzed **358 video shows** using **SQL**, **BigQuery**, and **dbt** for ETL, with data analysis and visualization in **Python** (**pandas**, **seaborn**) and **Tableau**, identifying trends in performance and calibrating parameters for segmentation.
- Designed a predictive metric from key performance indicators to evaluate and forecast video content success, driving data-backed decisions for personalized creator education and content suggestions across **50+ stakeholders**.

AWEAR (awear.us) | Berkeley, CA **Jan 2024 – May 2024**
Software Engineer (Machine Learning) Intern

- Engineered an **LLM neuro-coach voicebot** with latency **<500ms** using **OpenAI's Realtime API**, integrating **EEG data** from hardware to deliver personalized CBT-based interventions that elevate users' mental well-being.
- Led a team of 4 to craft an MVP **real-time GUI** in **Flutter** that connects to hardware through bluetooth for visualizing EEG waveforms and fluctuations of emotional indices, ensuring cross-platform and device compatibility.

NVIDIA | Berkeley, CA **Jan 2023 – May 2023**
Consulting Engagement Lead

- Managed a team of 5 to identify growth opportunities for **NeMo LLM** in clinical trials by analyzing market trends and developing B2B go-to-market strategies, resulting in a projected **$1.7 billion serviceable market**.
- Consulted with **30+ experts** to identify clinical trial challenges and proposed NeMo LLM solutions that improved patient matching and enhanced drug-to-drug interaction accuracy, addressing delays that cost up to **$8 million daily**.

Technical Projects

Video Focus with EEG | *MUSE S, Python, OpenAI API, React Native*

- Won the **NVIDIA x Bakar BioEnginuity Hub hackathon**, creating a program that leverages Open AI API and EEG from **Muse S** to track focus and improve lecture comprehension through real-time engagement analysis.

CNN for Breast Cancer Diagnosis | *Python, TensorFlow, ResNet-50, scikit-learn, NumPy*

- Developed a CNN to predict breast cancer severity from **175,000+ biopsy images** in Nightingale dataset, achieving **90.8% accuracy**; optimized preprocessing, applied class weighting, and adjusted thresholds to enhance clinical use.

Assembly Language Classifier | *RISC-V, C*

- Built assembly classifier for **handwritten digit recognition**, streamlining matrix operations for low-level hardware.

Database Management System Implementation | *Java, SQL, NoSQL*

- Revamped DBMS with B+ trees, join algorithms, query optimization, multigranularity locking, and database recovery.