Harrison Costantino

Machine Learning Researcher San Francisco, CA

Analytical machine learning specialist with a strong foundation in mathematics and computer science, pursuing a challenging role to develop innovative, socially impactful solutions using cutting-edge technology

Experience

KINTSUGI MINDFUL WELLNESS

Oct 2020 – Feb 2023 | Berkeley, CA

Kintsugi, a Series A ML startup, pioneers cutting-edge medical software using vocal biomarkers to identify depression and anxiety. As the sole contributor during the ML team's formative stages, I drove key advancements and helped elevate the company from a seed-stage startup to a distinguished Forbes AI 50 member.

Machine Learning Research Manager | March 2022 - Feb 2023

- Championed the adoption of modern MLOps practices and unified team-wide standards, leading to **increased productivity, enhanced reproducibility, accelerated deployment, and greater visibility**
- Spearheaded the successful integration of our technology into a large healthcare organization's systems, adapting the model for their patient data and **leading a successful proof-of-technology** demonstration
- Collaborated with the executive team to hire a team of researchers and interns; managed the team and mentored interns, **consistently meeting performance targets and project deadlines**
- Implemented Monte Carlo sampling and related methods to **quantify model uncertainty and reduce risk**

Machine Learning Researcher | Jan 2021 - March 2022

- **Improved model accuracy by 36%** by leveraging pretrained models and representation learning
- Streamlined pipeline via feature selection, achieving a **25% speed increase** while maintaining performance
- Conducted comprehensive literature reviews, replicated prior works on large-scale data sets, and leveraged findings to **create a novel, state-of-the-art approach**

Machine Learning Intern | Oct 2020 - Dec 2020

- Conducted **comprehensive exploratory data analysis**, uncovering critical flaws in the data pipeline
- Rewrote the model training library, enhancing versatility and **significantly reducing development time**
- **Designed and implemented audio augmentations** to mimic call center environments, improving model performance and generalizability in production domains
- **Quickly gained proficiency** in digital audio and signal processing for machine learning applications

RISELAB (U.C. BERKELEY) | Undergraduate Researcher

April 2020 – December 2020 | Berkeley, CA

- Collaborated closely with a PhD candidate, contributing to multiple state of the art computer vision projects such as **zero-shot super resolution, efficient video super resolution, and age estimation**
- Demonstrated **strong initiative and ability to work independently**, quickly acquiring new skills and knowledge to make meaningful contributions to the research projects

CLIMATE CONNECT | Machine Learning Intern

June 2019 – August 2019 | Pune, India

- Worked on high-impact **time-series forecasting** projects such as predicting changes in power grid demand and forecasting carbon market daily price changes
- Prototyped various classical models; deployed an XGBoost model that **achieved over 90% accuracy**
- **Sent automated daily predictions** to clients via email, ensuring timely delivery of valuable insights

U.C. BERKELEY MATH DEPARTMENT | Study Group Leader and Tutor

Sep 2017 – March 2020 | Berkeley, CA

- Planned and facilitated engaging study group sessions, emphasizing **collaborative problem-solving**
- Demonstrated exceptional **technical communication skills** by translating complex mathematical ideas into easily digestible conceptual breakdowns
- Consistently **received strong, positive feedback** from students and faculty
- **Increased student performance** by one-grade-point on average

Contact & Links

harrisoncostantino.com

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Skills

PROGRAMMING

Python • SQL • Java • C • LaTeX • Go Assembly • Shell

LIBRARIES/TOOLS

PyTorch • Pandas • NumPy • matplotlib Git • UNIX • Docker • GCP • AWS

PROFESSIONAL SKILLS

Technical Communication • Problem Solving • Continuous Learning • Cross-Domain Collaboration • Fast Learner

Education

U.C. BERKELEY

M.S. in Computer Science

May 2022 | Berkeley, CA

GPA: 3.94

Thesis: Depression Severity Estimation Using Learned Vocal Biomarkers

B.A. in Computer Science and Mathematics, With Honors

Dec 2020 | Berkeley, CA

Cum. GPA: 3.84 / Major GPA 4.0

Selected Projects

Custom TTS System

Leveraged classical and modern speech synthesis methods to create three unique synthetic voices derived from my personal vocal recordings.

Temporally Interpolated Rewards

Devised and executed a reinforcement learning framework that guided the agent's smooth progression from simple to complex tasks via reward function interpolation.

Shor's Algorithm

Implemented Shor's Algorithm on a custom quantum computer simulation, showcasing quantum computing's potential advantages over classical computing.