Harrison Costantino

Machine Learning Researcher San Francisco, CA

Skilled machine learning practitioner with a deep foundation in mathematics and computer science, seeking an engaging role to develop transformative, socially conscious applications harnessing 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, resulting in **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

- Partnered with a PhD candidate to contribute to cutting-edge **computer vision projects**, including **zero-shot super-resolution**, **efficient video super-resolution**, and **age estimation**
- Exhibited **strong initiative and independent work ethic**, rapidly acquiring new skills and knowledge to make significant contributions to research projects

CLIMATE CONNECT | Machine Learning Intern

June 2019 – August 2019 | Pune, India

- Developed high-impact **time-series forecasting** solutions for predicting power grid demand changes and carbon market daily price fluctuations
- Prototyped various classical models; deployed an XGBoost model that **achieved over 90% accuracy**
- Streamlined processes by **automating daily predictions** for clients via email, ensuring timely delivery of valuable insights

Publications

Mazur, A., **Costantino, H.**, Dover, K., Tom, P., Wilson, M. P, & Thompson, R. G. (2023). To Screen, or Not to Screen, that is Depression. *Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health*, 24(2.1).

Mazur, A., **Costantino, H.**, Dover, K., Cheng, M.H., Tom, P., & Harman, H. (2023). Machine Learning Detects Signs Of Depression From Speech Samples In Individuals Self-Reporting Severe Depression. *Telemedicine and e-Health*, 29(4), A-8-A-8.

Contact & Links

harrisoncostantino.com

harrisoncostantino

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Education

U.C. BERKELEY

M.S. in Computer Science

May 2022 | Berkeley, CA

Cum. 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

Technical Skills

PROGRAMMING LANGUAGES

- Python
- C
- Java
- SQL
- Shell

TOOLS & TECHNOLOGIES

- PyTorch
- TensorFlow
- NumPy
- Pandas
- Matplotlib
- Plotly
- Git
- Docker
- AWS
- GCP
- Linux/Unix

Professional Skills

- Technical Communication
- Problem Solving
- Critical Thinking
- Data Visualization
- Teamwork & Collaboration
- Cross-Domain Collaboration
- Adaptability
- Time Management
- Continuous Learning