Harrison Costantino

Machine Learning Researcher San Francisco, CA

Accomplished machine learning practitioner with a proven track record of transforming complex challenges into innovative solutions

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 | Feb 2022 - Feb 2023

- **Established and employed cutting-edge MLOps practices**, significantly enhancing productivity, expediting deployment, and providing greater transparency into the machine learning pipeline
- Spearheaded the integration of our technology into a major healthcare organization's systems and adapted our model for their patient data, culminating in a **triumphant proof-of-technology demonstration**
- Created and prototyped models based on **advanced large-scale transformers**, showcasing their efficacy at delivering outstanding results
- Worked closely with the executive team to recruit a team of researchers and interns, effectively managing and mentoring them to **consistently meet performance targets and project deadlines**

Machine Learning Researcher | Jan 2021 - Feb 2022

- **Developed a groundbreaking deep-learning model**, using an innovative approach to precisely detect depression through vocal analysis
- **Boosted model accuracy by an impressive 36%** by utilizing finetuning and representation learning techniques
- Implemented Monte Carlo sampling and related methods to **assess model uncertainty and minimize risk**

Machine Learning Intern | Oct 2020 - Dec 2020

- Performed thorough **exploratory data analysis**, identifying crucial issues in the data pipeline
- Revamped the model training library, increasing flexibility and **drastically reducing development time**
- **Designed and implemented audio data augmentations** to simulate call center environments, enhancing model performance in production settings

RISELAB (U.C. BERKELEY) | Undergraduate Researcher

April 2020 – December 2020 | Berkeley, CA

- Conducted in-depth research in **computer vision**, focusing on state-of-the-art subjects like **zero-shot super-resolution, efficient video super-resolution, and age estimation**
- Demonstrated exceptional **self-motivation and independent work ethic**, quickly acquiring new skills and expertise to make notable 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 shifts and carbon market daily price variations
- Experimented with various classical models; successfully **deployed an XGBoost model** that attained a remarkable **90% accuracy within the first month of production**
- **Provided automated daily forecasts** to clients, ensuring prompt delivery of critical 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). Link

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. Link

Contact & Links

harrisoncostantino.com

harrisoncostantino

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Education

UNIVERSITY OF CALIFORNIA, BERKELEY

Master of Science in Computer Science

May 2022 | Berkeley, CA

Cum. GPA: 3.94

Thesis: Depression Severity Estimation Using Learned Vocal Biomarkers Link

Bachelor of Arts in Computer Science and Mathematics, With Honors

Dec 2020 | Berkeley, CA

Cum. GPA: 3.84 / Major GPA 4.0

Skills

PROGRAMMING LANGUAGES

- Python
- C
- SQL

MACHINE LEARNING FRAMEWORKS

- PyTorch
- TensorFlow
- Scikit-learn
- XGBoost

DATA ENGINEERING

- Exploratory Data Analysis
- Data Preprocessing
- Feature Engineering

TECHNICAL EXPERTISE

- Computer Vision (CV)
- Natural Language Processing (NLP)
- Speech Processing
- MLOps
- Git
- Docker
- Cloud Computing

PROFESSIONAL SKILLS

- Problem Solving
- Technical Communication
- Data Visualization
- Cross-Domain Collaboration
- Adaptability
- Continuous Learning