YANG HU

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EDUCATION

University of California, Santa Barbara — Santa Barbara,CA
Bachelor of Science, Mathematics/Statistics and Data Science — Sep. 2020 - Mar. 2024
Major GPA: 3.75, Computer Science Courses GPA: 3.94
Relevant Coursework: Linear Algebra, Data Structures and Algorithms, Algorithms Engineering, Deep Learning, Statistical Machine Learning, Statistical Data Science, Probability and Statistics, Time Series, Regression Analysis, Applied Stochastic Processes, Real Analysis, Big Data Analytics, Differential Geometry, Financial Mathematics

SKILLS

Languages	Fluent with Python, R; Proficient with SQL, C++; Experienced with HTML/CSS, HUGO
Frameworks	PyTorch, TensorFlow, OpenCV, Scikit-Learn, CUDA, Spark, Pandas, Numpy/Sci-py, Seaborn
Tools	Google Cloud Platform, Git, SVN, Shell, LaTeX, Markdown, Excel, Adobe Photoshop, Illustrator

EXPERIENCE

Machine Learning Undergraduate Researcher — Jun. 2023 - Mar. 2024
The WAVES Lab, University of California, Santa Barbara — *Santa Barbara, CA*

- Deployed and advanced deep learning models for image segmentation on large-scale satellite imagery.
- Proposed a computationally efficient model to address segmentation challenges in environmental remote sensing.
- Awarded Schmidt Family Foundation Research Mentorship Award.

Computer Vision Lab Research Assistant — Jun. 2022 - May. 2023
School of Data Science & Engineering, East China Normal University — *Shanghai,China (Remote)*

- Cleaned and customized various computer vision datasets with OpenCV and Scikit-Image.
- Fine-tuned various CNN/transformer models for Image Super-Resolution using GPU-accelerated computing.

PROJECTS

Semantic Segmentation by Pixel-level Time Series Classification — Jan. 2023 - Mar. 2024

- Implemented various pixel-level time series classification models utilizing satellite data from Google Earth Engine.
- Evaluated the transferability and adaptability of the trained model across various locations and timeframes.

Few-shot Instance Segmentation for Remote Sensing — Jun. 2023 - Dec. 2023

- Developed a novel Segment-Then-Classify Strategy leveraging the Segment Anything Model and Vision Transformer for instance image segmentation in remote sensing, reducing manual labeling and training costs.
- Presented the first-author paper at the NeurIPS 2023 Climate Change AI Workshop in New Orleans.

Time Series Forecasting of U.S. Candy Production — Sep. 2023 - Nov. 2023

- Applied Box-Cox transformation and differencing to achieve stationarity in the time series dataset and identified optimal SARIMA model using ACF and PACF analysis and Maximum Likelihood Estimation.
- Validated the model through comprehensive diagnostic tests and spectral analysis.

Efficient Visual Attention Design for Image Super-Resolution — Mar. 2022 - May 2023

- Replicated and analyzed 16 Super-Resolution models to assess key characteristics of successful models.
- Collaboratively designed a CNN-based model that achieved state-of-the-art performance while reducing parameter count by 85% through the innovative use of efficient visual attention mechanisms.

Soccer Player Transfer Market Value Prediction — Sep. 2022 - Jan. 2023

- Performed comprehensive Exploratory Data Analysis including data visualizations and feature engineering.
- Developed a data pipeline to streamline grid search tuning and training for 6 machine learning models.

LEADERSHIP

Lead Event Planner, Chinese Students and Scholars Association, UCSB — Dec. 2020 - Dec.2023

- Organized Freshmen Orientation Carnival, GauchoKill (Board Game Championship), and GauchoDate.