

# Colton Rowe

(707) 799-2363  
coltonjack.rowe@gmail.com  
coltonrowe.com

## EDUCATION

---

**Master of Engineering**, University of California, Los Angeles, Los Angeles CA Expected August 2025  
Concentration in Artificial Intelligence.

**Bachelor of Science**, University of California, Santa Barbara, Santa Barbara CA March 2024  
Double major in Statistics and Data Science (BS) and Mathematics (BS).

## EXPERIENCE

---

**Data Science Collaborative UCSB RCO** March 2023 – May 2024  
*Vice President*

- Managed a group of over 10 staff while planning weekly community events and workshops.
- Guided more than 30 students in creating personal data science projects.
- Developed and presented five skill-building lectures for statistics undergraduates.

**Campus Learning Assistive Services UCSB** September 2023 – March 2024  
*Math Tutor*

- Tutored dozens of math students; specialized in over eight classes including calculus and linear algebra.
- Devoted 8–10 hours weekly to support tutees' academic success.

## PROJECTS

---

**sEMG Signal Decoding using Deep Learning** January 2025 – March 2025  
*Python, Pytorch, Stable-Baselines3* - coltonrowe.com

- Compared CNN, RNN, and LSTM hybrid models for keystroke decoding from sEMG using Stable-Baselines3.
- Found that the baseline CNN model outperformed the hybrid models, achieving a character error rate of 21.82.

**Autonomous Driving RL with PPO in Metadrive** January 2025 – March 2025  
*Python, Pytorch, Metadrive* - coltonrowe.com

- Used proximal policy optimization to train autonomous driving agents in Metadrive environments.
- Maximized route completion while tuning hyperparameters like scenario count, clip range, and reward shaping.
- The best agent achieved 88% route completion and 70% success rate.

**Network Post-Pruning with Coresets Data Selection** January 2025 – March 2025  
*Python, Pytorch, CIFAR Datasets* - coltonrowe.com

- Investigated how coreset data selection effects "lottery ticket" one-shot network pruning.
- Trained ResNet and LeNet models on CIFAR-10 and CIFAR-100 datasets over hyperparameters including post-pruning epochs and prune-percent.
- The fine-tuned models maintained 2% higher accuracy after 10 epochs, suggesting coreset selection reveals structural patterns.

**Predicting IMDb Ratings with Streamlit and Scikit-learn** April 2023 – June 2023  
*Python, Streamlit* — tv-popularity.netlify.app

- Built a predictive web app using Streamlit and Scikit-learn to estimate IMDb ratings, enabling users to input show attributes and receive a predicted popularity score.
- Scraped and parsed thousands of entries from Kaggle and IMDb, and engineered features to train a random forest, KNN, decision tree, and beta regression with an RMSE  $\approx .197$ .

**Smash Bros. Match Outcome Prediction using Machine Learning** January 2023 – March 2023  
*Python, SQL* — smashsetprediction.netlify.app

- Used hyperparameter tuning and cross-validation to compare an Elastic Net, Decision Tree, Random Forest, and Boosted Tree in predicting *Super Smash Bros.* match outcomes.
- Highlighted that stage selection and player performance history were more predictive than character choice alone through variable importance, achieving an accuracy of 67.8% with a Random Forest model.

**Autoregressive Time Series Forecasting of Global Temperature** January 2023 – March 2023  
*R* — globtempforecast.netlify.app

- Applied autoregressive models such as SARIMA and TAR to global temperature data spanning 100 years.
- Forecasted global mean temperature over the next 80 years to identify climate trends.