Pranav Ramesh

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RESEARCH INTERESTS

Quantum Machine Learning, Quantum Neural Network, Spatiotemporal Analysis, Time Series Analysis, Deep Learning

EDUCATION

University of California, Davis, CA, USA — Sep 2022 — Dec 2023
Master of Science in Statistics - Data Science Track — Cumulative GPA: 3.669/4.00

Birla Institute of Technology and Science, Pilani, Dubai, UAE — Aug 2018 — May 2022
Bachelor of Engineering in Computer Science — Cumulative GPA: 9.05/10.00
Minor in Data Science

PROFESSIONAL EXPERIENCE

University of California — Davis, CA, USA
Research Assistant — Feb 2024 – Present

- Perform clustering analysis on Water Quality Dataset using Time Series in Python and R. To analyze the features important for the clustering process and identify similarity in features within clusters. To understand if interpolation, makes any significant difference in analysis. This project is near publication.
- Predict the probability of countries paying back their debt using World Bank Debt Data, with "Credit Rating" as the response variable, and visualize common Multilateral and Bilateral Banks that provided the most debt.This project is completed.

Esri Inc. — UAE
Software Development Engineer Intern — Aug 2021 – Jan 2022

- Leveraged Python, Microsoft Azure, and Terraform to optimize data processing workflows, enhance accessibility of Mosaic Dataset for 1000's of customers, provision critical resources, and conduct comprehensive regression testing for the company's Python API.
- Published diverse imagery into ArcGIS Online, improving usability for end-users, while also developing Python scripts for SAZ (Session Archive Zip) and automated email notifications to streamline communications process.

Levtech Consulting (now InTWO) — Dubai, UAE
Student Intern — Jun 2020 – Aug 2020

- Designed and developed an engaging landing page for the company using industry-leading design tools, Adobe Photoshop and Adobe Illustrator, resulting in increased user engagement and conversion rates.
- Leveraged Microsoft 365 Dynamics to analyze and interpret 1000s customer data, enabling data-driven decision-making.

PUBLICATIONS

[1] Ramesh, P., & Jothi, J. a. A. (2022). "Predicting Covid-19 Cases for 12 Countries using Long Short-Term Memory." 2022 International Conference on Engineering and Emerging Technologies (ICEET), https://doi.org/10.1109/ICEET56468.2022.10006845.

[2] Sulthana A, R., & Ramesh, P. (2022). "Predicting the import and export of commodities using support vector regression and long short-term prediction models." International Journal of Computing and Digital Systems, 11(1), 635–647, https://dx.doi.org/10.12785/ijcds/110151.

PROJECTS

Clustering Analysis of Water Stream Data — Davis, CA, USA
Research Assistant, University of California, Davis — May 2024 — Present

- Performed clustering analysis on water stream data, utilizing k-means, segmentation and GMM.
- Identified key features in the dataset that influenced cluster formation, contributing to better understanding of underlying patterns in water quality.

- Analyzed clustering results to provide insights into stream segmentation, aiding in environmental monitoring and assessment.
- Planning on being a publication

Debt Repayment Probability Prediction Using World Bank Data Davis, CA, USA
Research Assistant, University of California, Davis Feb 2024 — Apr 2024

- Developed a predictive model to estimate the probability of countries repaying their debt using World Bank Debt Data, with "Credit Rating" as the response variable.
- Visualized the distribution of debt from key Multilateral and Bilateral Banks, identifying institutions that provided the most debt to different countries.
- Conducted performance analysis of the model using accuracy and loss metrics, optimizing the model for future debt repayment forecasting.

TEACHING EXPERIENCE

University of California, Davis (Quarter System)
Graduate Teaching Assistant and Reader

- **STA 141A: Fundamentals of Statistical Data Science** Fall 2023
- **STA 013: Elementary Statistics** Spring 2023, Summer 2023

Birla Institute of Technology and Science, Pilani, Dubai (Semester System)
Lab Assistant

- **CS F211: Data Structures and Algorithms** Winter 2022

CERTIFICATIONS

- **Variational Algorithm Design**, **IBM** Certificate July 2024
- **Basics of Quantum Information**, **IBM** Certificate July 2024
- **Practical Introduction to Quantum-Safe Cryptography**, **IBM** Certificate July 2024
- **Google Advanced Data Analytics**, **Grow with Google on Coursera** Certificate April 2024
- **Google IT Automation with Python**, **Grow with Google on Coursera** Certificate April 2024
- **Google Data Analytics**, **Grow with Google on Coursera** Certificate April 2024
- **6.419x: Data Analysis: Statistical Modeling and Computation in Applications**, **MITx on edX** Jan 2022
  Certificate Credential ID: 34eefa49e7324541834d519b5194c2c7
- **6.86x: Machine Learning with Python-From Linear Models to Deep Learning**, **MITx on edX** Nov 2021
  Certificate Credential ID: cecb5534a3a940f98d75f29d60122b52
- **18.6501x: Fundamentals of Statistics**, **MITx on edX** Sep 2021
  Certificate Credential ID: 3349fa4b6a654532a01817ae2e1d1c6b
- **6.431x : Probability - The Science of Uncertainty and Data**, **MITx on edX** Dec 2020
  Certificate Credential ID: 4b5d7796d1ce4ba595585198b77d9b9f

RELEVANT COURSEWORK

Graduate Courses

- STA 209: Optimization for Big Data Analytics
- STA 237: Time Series Analysis
- STA 221: Big Data & High Performance Statistical Computing
- STA 243: Computational Statistics
- STA 206 & 207: Statistical Methods and Research
- STA 141B: Data & Web Technologies for Data Analysis

Undergraduate Courses

- CS F415: Data Mining
- CS F211: Data Structures and Algorithms
- CS F407: Artificial Intelligence
- BITS F464: Machine Learning

SKILLS

- **Programming:** Python, R, Java, C++, SQL, Linux Kernel (RedHat, Ubuntu, Bash Script), Ubuntu Software
- **Software:** Qiskit, NumPy, pandas, matplotlib, seaborn, Scikit-learn, pytorch, TensorFlow, keras, Statsmodels, Scipy, Plotly, ARIMA, Docker
- **Cloud:** AWS, Azure, Terraform

REFERENCES

Prof. Miles Lopes
Associate Professor, Department of Statistics, UC Davis, Davis, CA, USA
E-mail: melopes@ucdavis.edu
Scholar Profiles: Miles Lopes - Personal Page — Google Scholar — LinkedIn

Maxime Pouokam, Ph.D
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