Siddhant Joshi

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EDUCATION

University of California, San Diego Expected December 2024

Bachelor of Science in Cognitive Science - Machine Learning and Neural Computation, GPA: 4.0 *La Jolla, CA*

- Minor in Mathematics
- Relevant Coursework: Supervised/Unsupervised Machine Learning Algorithms, Reinforcement Learning, Data Science in Practice, Vector Calculus, Linear Algebra, Probability and Statistics, Data Modeling and Analysis, Business Analytics
- Activities: Data Science Students Society, Triton Gaming, Phi Sigma Pi Honors Fraternity

EXPERIENCE

Machine Learning Intern February 2024 – Present

San Diego Supercomputer Center *La Jolla, CA*

- Developed and delivered comprehensive research tutorials, empowering researchers with effective prompt engineering practices to optimize Copilot, ChatGPT, Gemini, and other LLMs
- Conducted thorough assessments of current LLMs, exploring their capabilities and limitations in the context of data science and machine learning tasks

Instructional Assistant September 2023 – Present

UCSD Dept. of Cognitive Science *La Jolla, CA*

- Supported classroom instruction via bi-weekly sessions, teaching key Python libraries for data analysis
- Delivered 4 lectures on an introduction to machine learning techniques and ethics
- Mentored and offered hands-on guidance to 700+ students on Python assignments and data science projects

Undergraduate Research Assistant March 2022 – December 2023

Bambah-Mukku Lab, UCSD Dept. of Psychology *La Jolla, CA*

- Conducted a comprehensive examination and dissection of hypothalamic POA neuron clusters identified by the novel taxonomy presented in J. Moffitt, D. Bambah-Mukku et al. (2018)
- Developed R-based pipeline using Seurat that leveraged unsupervised clustering techniques and DEG analysis to explore potential sub-clusters within those identified in the aforementioned study

Platform Engineering Intern June 2023 – August 2023

Nokia Corporation *Sunnyvale, CA*

- Spearheaded the solution designing and implementation of a router topology editor in Python, creating custom tools and scripts to facilitate editor configuration management, error tracking, and intuitive platform design
- Contributed to the creation of user stories, sprint planning, and weekly sync-up meetings, ensuring seamless coordination and rapid project delivery

PROJECTS

Computational Analysis of Hypothalamic POA Neuron Clusters | *R: Seurat, dplyr, ggplot2*

- Conducted a series of data pre-processing, dimensionality reduction, unsupervised clustering, differential gene expression analyses, and statistical hypothesis testing
- Designed and implemented an R-based pipeline to examine POA gene expression signatures and spatial patterns
- Techniques: Louvain method, PCA/UMAP reductions, differential gene expression analysis, statistical testing

Statistical Modeling for Heart Disease Risk Predictions | *Python: NumPy, Pandas, Seaborn, scikit-learn*

- Implemented two prediction models trained on CDC-provided data to predict heart disease in American patients
- Applied statistical learning methods using data science libraries in Python and achieved 77.14% model accuracy
- Techniques: Data wrangling, multiple logistic regression, PC regression, cross-validation, model selection

SKILLS

Programming Languages: Python, R, MySQL, LaTeX, JavaScript, HTML, CSS

IDE/Tools: G-Suite, Microsoft Office, Git, VSCode, Jupyter, Google Colab, RStudio, Tableau, Linux

Libraries: NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, PyTorch, tidyverse, tidymodels, Seurat

Awards/Certifications: Google Data Analytics Professional Certificate, California State Seal of Biliteracy (Spanish), Eagle Scout (Scouts of America), Undergraduate Excellence in Teaching Award

Languages: English, Hindi, Spanish