RIYAADH BUKHSH

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Education

University of California, Davis – *Davis, CA*   December 2024
Bachelor of Science – Data Science, AS-T Computer Science, **Minor** – Mathematics   3.7/4.0 GPA

Related Coursework: Calculus, Probability, Statistics, Regression, Forecasting, Optimization, Machine Learning, Deep Learning, Big Data, SQL/NoSQL, Algorithms and Data Structures

Skills

Programming Languages: Python, SQL, JavaScript (ReactJS, NextJS), R, Latex, Linux, C++, HTML5, CSS
Libraries: Django, Flask, NumPy, **Pandas**, **Scikit-Learn**, SciPy, **PyTorch**, Matplotlib, Seaborn, NPM
Database Technologies: MongoDB, PostgreSQL, Microsoft SQL Server
Frameworks and Tools: Apache Spark**,** Microsoft Office (Excel, PowerPoint, etc.), **Git**, Tableau, Firebase, Linux

Work Experience

Founder & AI Engineer, Veida AI - *San Francisco, CA*   July 2024 – Present
- Built an app with 3 engineers to enhance studying for **1K+ users** with AI flashcards, notes, MCQs, and review plans.
- OCR pipeline using Paddle and Tesseract, leveraging OpenCV for 200% faster image and PDF text extraction.
- Integrated Stripe API for payment processing with webhooks and Clerk for secure user authentication.
- Fine-tuned OpenAI API to generate consistent high-quality study material with precise LaTeX and JSON format.
  Δ **Skills Used:** NextJS, Python, Flask, Railway, Vercel, OpenAI, Stripe API, Clerk

Software Engineering Fellow, Headstarter - *Hybrid*   June 2024 – August 2024
- Building 5+ AI apps and APIs using NextJS, OpenAI, Pinecone, StripeAPI with 98% accuracy as seen by 1000 users
- Developing projects from design to deployment leading 4+ engineering fellows using MVC design patterns.
- Coached by Amazon, Bloomberg, and Capital One engineers on Agile, CI/CD, Git, and microservice patterns.
  Δ **Skills Used:** JavaScript (ReactJS, NextJS), HTML5, CSS, OpenAI, SripeAPI, AWS, Firebase

Financial Analyst, UC Davis - *Davis, CA*   March 2023 – July 2024
- Analyzed, and audited **30,000+** unique student ledgers using Student Information System (**SIS)** and **Excel**.
- Automated audit processes for the team by creating macros with **Visual Basic**, boosting efficiency by **500%**.
- Consulted students with requests, refund processing, debt deferral, balance insight, and financial information.
- Managed the consolidation and issuance of checks totaling $20 million.
  Δ **Skills Used:** Microsoft Office (Excel, PowerPoint, Mail), Visual Basic, SIS, Touchnet, CheckTrack

Projects

MNIST Image Reconstruction   May 2024 – June 2024
- Led a team in performing **Principal Component Analysis** (PCA) on **5000** MNIST digits to visualize projections
- Applied **Kernal Density Estimation**, reconstructed images and analyzed associations between bandwidths.
- Computed **Gap Statistic** and compared clustering results using PCA and **Monte Carlo** simulations.
  Δ **Skills Used:** Python (Keras, NumPy, Matplotlib, Ipywidgets, Scikit-Learn), Google Colab

Airbnb SQL Benchmarking   April 2024 – June 2024
- Extracted, Transformed, and Loaded (ETL) **14,299,870** Airbnb entries into a **PostgreSQL** server.
- Set up a test harness in **Jupyter Lab**, connected to PostgreSQL, and optimized relations with indexes.
- Performed **1020+** SQL queries (searches, updates, aggregations), and measured retrieval speeds.
- Conducted comparative analysis between control and **indexed relations**, increasing retrieval efficiency by **230%.**
  Δ **Skills Used:** Python (psycopg2, sqlalchemy, Matplotlib, NumPy, Pandas), SQL, Jupyter Lab

Dermatological Predictive Analysis January 2024 – March 2024
- ➢ Led a team of 4, cleaned data on **999 individuals** with 12 factors to hair loss, validating and imputing values.
- ➢ Visualized data with Matplotlib, and Seaborn, revealing genetic and environmental impacts on alopecia.
- ➢ Executed **Chi-Square** test, **Analysis of Variance**, and Feature Importance to find relationships between predictors.
- ➢ Engineered predictive classifiers (Logistic Regression, Linear Discriminant Analysis, Quadratic Discriminant Analysis, and Random Forest), achieving an **84%** prediction accuracy on hair loss.
  Δ **Skills Used:** R (dplyr, ggplot, glmnet, MASS, caret, randomForest), Rstudio (Markdown)

Neuroscience Data Analysis and Modeling April 2022 – June 2022
- ➢ Led a team in analyzing **5081** trials of neural activity data across **113** brain areas for mice response to light stimuli.
- ➢ Cleaned and aggregated **18** sessions of mice data into a comprehensive data frame, for easier manipulation.
- ➢ Explored relationships between contrast levels and feedback types, increasing experimental efficiency by **20%**.
- ➢ Created data visualizations of neural activity and applied spectral clustering, achieving an **83%** classification rate.
  Δ **Skills Used:** R (dplyr, ggplot, caret, kernlab, tidyverse, cluster), Rstudio (Markdown)