Shekhar Narayanan

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Profile

With over three years of experience building end-to-end solutions for several scientists in India and The Netherlands, I have found my passion in telling stories through data and making life easier with reliable software. Trained as an engineer and researcher, I seek working in spaces that thrive with the collaboration of these fields.

Passion Projects

live_stocks_tracker | Python, Web development, Streamlit, OAuth, yfinance, SQL, CI/CD

Developing a Web application where a user can track the US stock market without ads for free. Currently playing with FastAPI to securely link user database and streamlit.

finance_viz | Python, LangChain, Ollama, Local LLMs, Pandas, Plotly, Dash

Building a dashboard to visualize my expenditures in the Netherlands. Currently working on generalizing pre-processing methods to extract meaningful data from financial statements.

Professional Experience

Research Software Engineer | Data Steward — **Tilburg University, Netherlands**
Sept 2024 – Present

I work directly with researchers to automate and streamline their research process with software solutions.

- Worked on several **API integration projects** using **Python**, namely with the **OpenAI API**, **CompaniesHouse API** and **YouTube API**.
- **Gave workshops** on **improving code quality**, using **AI in research** and harnessing the power of **version control** using **Git**.
- **Developed user-friendly applications** using **Python** to **simplify workflows** and **communicate technical progress** to stakeholders.
- Actively involved with **preprocessing** and **delivering key insights** on data types ranging from **unstructured text** to **heart rate** and **skin conductance** signals.

RA, Brain-computer Interfacing — **Data-Driven Neurotech Lab, Donders Institute, Netherlands**
Oct 2023 – Jul 2024

Worked as a Research Assistant to develop a brain-computer interface designed for people with ALS.

- Developed an **experimental paradigm** based using **Psychopy** in **Python**.
- Performed **preprocessing, feature extraction, and decoding of neural data** using **machine learning methods** like **LDA, CCA**.
- Gained proficiency in **scikit-learn** for **model evaluation, and machine learning pipelines**.

Research Intern **Genzel Lab, Donders Institute, Netherlands**
Sep 2021 – Jul 2023

Worked as a research intern and a master's thesis student at the Genzel Lab.

- **Independently** developed **end to end data extraction, feature engineering and visualization pipelines** for neural data obtained from rats in **MATLAB**.
- Learned about **best practices** for **coding, efficient communication and academic publishing**.

Education

Radboud University, Nijmegen, Netherlands
M.Sc. Natural Computing and Neurotechnology Sep 2021 – Sep 2023, GPA: 7.98

Manipal Institute of Technology, Manipal, India
B.Tech Electronics and Communication Engineering Aug 2016 – Jul 2020, GPA: 7.38

Publications

Towards Gaze-Independent C-VEP BCI: A Pilot Study. **Graz BCI conference, 2024**

Increased cortical plasticity leads to memory interference and enhanced hippocampal-cortical interactions. **eLife, 2023**

Technical Skills

Programming: Python, MATLAB, SQL
Machine Learning: scikit-learn
Data Manipulation: pandas, NumPy
Visualization: matplotlib, seaborn
Miscellaneous: Git, GitHub, CI/CD, AWS, API Integration

Courses & Workshops

Intermediate Research Software Development with Python workshop (2024)

Followed an in-person course by the eScience center on best software development practices, **modularity**, **continuous integration and deployment** along with **test driven development in Python**.

Extracurriculars

Languages
English (Billingual), Hindi (Native), Dutch (A1)

Hobbies
Gym, Running, Creative Writing