

Full-stack developer with a proven track record in building scalable Single Page Application using ReactJs, backend (Flask, Django), and robust databases (PostgreSQL). Experienced in delivering end-to-end solutions within diverse agile development environments, from fast-paced startups to established institutions and research institutes. Currently completing a Master's in **AI & Generative AI** while leading front-end teams. Available for full-time roles from **November 1, 2025**, and based in Germany with full **EU relocation flexibility**.

Experience

AI Research- (Intern), NECLABS Europe – Heidelberg, Germany July 2025 - Oct 2025

- Developing an in silico pipeline integrating **ESM-LLMs** lineage predictions with **AlphaFold** to assess virus mutational impacts and predicting next possible evolution for **Drug/Vaccine Design**. Modeled changes in protein-protein interaction (PPI) interfaces to prioritize variants with enhanced host-receptor binding affinity.
- Fine-tuning and transfer learning for protein LLM, ESM models. Improved accuracy by **9%** and reduced training time by almost **66%** as part of different works.
- Developed a Phylogenetic Distance regression model using ESM embedding and MLP and achieved Pearson correlation of **0.998** and Spearman correlation of **0.997**, hence replacing existing time consuming phylogenetic distance calculator (Blosom 62). In Silico modelling now takes hours instead of days.

GenAI/ Full Stack Developer (Werkstudent), BASF – Ludwigshafen, Germany Nov 2024 - May 2025

- Engineered a Python solution to identify similar time series patterns, automating a critical data analysis process.
- Prototyped Multi Agent open source LLM-based contract summarizer
- Developed in house React-Typescript dashboard for time series data analysis consisting of important features like Charts, Figures, Tables etc

Full Stack Developer- Inline Process Solutions(Startup), Germany Feb 2023 - Oct 2024

- Architected and served as the lead Front end developer for the core client-facing application, delivering a robust platform that became the primary interface for pilot users and secured positive initial feedback.
- The interactive Single Page Application mostly served features like Forms, Charts, Images.

Frontend Lead (Werkstudent), Co2Opt(Startup) – Hamburg, Germany Jun 2022 - Jul 2023

- Led the front-end development of a core SaaS application, creating an intuitive UI.
- Delivered responsive UI with SPA principles, applying progressive enhancement for performance

Full Stack Developer, GreatLearning & Altimetrik (Startups/Mid Size) – Bengaluru, India Jan 2020 - Apr 2022

- Delivered a full-stack (ReactJs, Django, PostgreSQL) analytics platform that provided actionable insights into students behavior, helping course managers increase in student engagement.
- Mentored and led a team of 4 interns to develop a successful prototype that automated a project initiation workflow.

Projects

In Silico modelling- Virus Evolution Prediction- (Pytorch, ESM-LLMs, AlphaFold) Private Repo

- Researching on predicting protein sequences using pure ESM embedding instead of Blosom62/80 matrix technique.
- Using Embedding Cosine Distance and Phylogenetic Distance as loss function to drive the evolution process.
- Following Insertion, deletion and substitution of Amino acids to generate evolutions.

Multi-Agent Research Paper Literature Reviewer- (Python, Microsoft's Autogen, GenAI)



- A MAS that downloads or uploads research papers and generates literature review along with human feedback loop.

Style transfer on synthetic Time series Data (Transformers, GANs, Pytorch).

Private Repo

- Used GANs and Transformers to augment synthetic time series data to look like real world data.

Gemini Document Extractor(Closed Source Model- Gemini AI(GenAI), React)



- Single page application to extract key information from documents. Developed using Google's Gemini.

Education

M.Sc., Computer Science(AI/ML), TU Kaiserslautern (RPTU), Germany Apr 2022 - Oct 2025

- Research Thesis: Leveraging Hierarchies via multimodal prompt learning for Fine-Grained Image Recognition.
- Keywords: Computer Vision, Natural Language Processing, CLIP (OpenAI), VLM (Vision Language Model), Transfer Learning, Prompt Learning

B.E., Information Science, CGPA: 8.21/10, MVJ College Of Engineering (VTU) – Bengaluru May 2016 - Apr 2020

Technical Skills

Languages: Python, JavaScript, TypeScript, HTML/CSS
ML/NLP: Transformers, LLMs, Generative AI, Diffusion Models, RAG, Ollama, ESM-LLMs, MCP
Frameworks: PyTorch, HuggingFace, React, Flask-FastAPI, Django, LangChain, ExpressJs
Ops(Basic): Docker, AWS, Lambda, Kubernetes, Terraform, CI/CD, MLFlow, AirFlow
Databases: MongoDB, PostgreSQL, Pinecone(VectorDB), SQL
Git: Github, Gitlab, BitBucket, DVC

Achievements

- **Basyx Digital Twins Hackathon Winner**, Fraunhofer IESE, Kaiserslautern Germany(Oct 2023)
- **GEM Award**, Altimetrik India Pvt Ltd, Bengaluru India(Jun 2020)
- **Reimagine Waste Hackathon, Runners Up**, IISc, Bengaluru India(Sep 2018)