Jonas Chris Ferrao

Goa, India
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EDUCATION

Don Bosco College of Engineering **Jun 2021 - Jun 2025**
Bachelor Of Engineering *- CGPA - 8.06/10.0* *Fatorda, India*

- Honors: Artificial Intelligence and Machine Learning

Relevant Coursework: Mathematical Foundations for AI & ML, Artificial Intelligence, Machine Learning, Neural Networks & Deep Learning, Soft Computing, Data Science & Analytics, Speech & NLP

PUBLICATIONS

GCBLANE arXiv | **March 2025**

- A graph-enhanced convolutional BiLSTM attention network for improved transcription factor binding site prediction

EXPERIENCE

NIT Goa **July 2024 - Aug 2024**
AI/ML Research Intern *Remote*

- Finetuned **3 Deep Learning Models** for bone disease classification achieving **94% accuracy**.
- Built a T-score prediction model from X-ray images, ensuring results within **±0.25 units**, **85%** of the time.

Velocilabs **July 2024 - Aug 2024**
Software Intern (Fullstack) *Remote*

- Developed **3 full-stack web applications**: a URL shortener (**Golang**, **SQLite**, **React**), a real-time chat app (**Next.js**, **WebSockets**, **MongoDB**), and OsteoAI (**Flask**, **TensorFlow**, **React**).
- Built **REST APIs**, integrated **WebSocket** communication, and deployed medical application focused **ML** models.

TheKode.Biz **Mar 2024 - June 2024**
AI/ML Engineer Intern *Remote*

- Developed **3 Machine Learning** models for **Time Series forecasting**.
- Integrated models in an **AutoML** application.

StartupXY **July 2023 - Jan 2024**
Data Science (AI/ML) Intern *Remote*

- Contributed to development of a **MVP** and collaborated with 2 senior data scientists.
- Engineered **5 ML pipelines** with **10+ scripts**, integrating **NLP, CV, SER, SR** based models.

PROJECTS

Photometric Redshift Estimation using ML | PyTorch, Tensorflow **June 2024 - Ongoing**

- Compiled a **large, up-to-date** dataset from SDSS and HSC surveys for ML-based redshift estimation.
- Designing a novel **physics-informed neural network** to enhance redshift prediction accuracy.
- Benchmarking **GPU accelerated** ML models for a comprehensive analysis.

EmployAI | Flask, PyTorch, HuggingFace, Redis **Jan 2024 - May 2024**

- Leveraged 3 **LLMs** to analyze job descriptions and user profiles, generating tailored cover letters.
- Implemented a **Vector DB** with **RAG** for generating personalized interview questions/answers based on job description and user profile.

CBLANE | **Preprint** | TensorFlow, Keras, Scikit-Learn, RAPIDS, Plotly **Sep 2023 - March 2024**

- Created a **deep learning model** for prediction of TFBS in genomic sequences with **AUC** score of **0.94**.
- Implemented transfer learning with **CNN**, **Bi-LSTM** and **Multi-Head Attention** layered Neural Network.

Finance Metrics | Tensorflow, Keras, Django, Docker, Azure, MongoDB **Apr 2023 - May 2023**

- Designed a web-based platform in **Django** to forecast **live** stock prices of **7 leading Tech Companies**.
- Created CNN-LSTM neural network for stock price prediction with a **12% error rate**.
- Applied **Agile** methodology and utilised **GitHub Actions** for streamlined **CI/CD** to **Azure**.

Skills & Technologies

Languages: Python, R, C/C++, Go

Machine Learning: Jupyter Notebook, TensorFlow, Keras, PyTorch, Scikit-learn, RAPIDS

Web Development: Django, Flask, CSS, HTML, JavaScript, PHP

Databases: MongoDB, MySQL, Redis, Pinecone, SQLite

MLOps: Git, GitHub, Azure, Docker, Kubernetes

Certifications

- **Applied Accelerated Artificial Intelligence - NPTEL**
- **Google Cloud Generative AI Virtual Internship - AICTE**
- **Google AI-ML Virtual Internship - AICTE**
- **Altair Data Science Master Virtual Internship - AICTE**
- **Machine Learning for Engineering and Science Applications - NPTEL**
- **Machine Learning with Python - freeCodeCamp**
- **DevOps Fundamentals - Udemy**
- **Competitive Programming - NPTEL**

Achievements

- **1st Place - IEEE PaperQuest 2024 (DBCE, Fatorda):** Presented research titled "Advancing Transcription Factor Binding Site Prediction with Deep Learning".
- **1st Place - HackQuest at TechTwister 2024 (RIT, Shiroda):** Won a coding contest involving DSA, SQL, and debugging.
- **1st Place - Tech-It-To-Crack-It at TechTwister 2024 (RIT, Shiroda):** Won a competitive coding contest among state-wide participants.
- **Contributed to Evidently during GitHub Hacktoberfest 2024:** Implemented BERTScore feature for LLM evaluation, enhancing the Evidently framework.
- **Upwork Freelancing:** Completed two deep learning research projects, earning 5-star ratings for both.
- **Team Leader - Retrieval Sages at Inspirus 2023 (DBCE, Fatorda):** Led a team in successfully organizing a state-wide programming contest.