Neil Botelho

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WORK EXPERIENCE

SymphonyAI   *Bengaluru, India*
Data Scientist,   **Jul. 2024 – Present**
- Building a copilot architecture that is reusable across several verticals(Industrial, Retail, Media etc.)

Persistent Systems   *Goa, India*
Software Engineer, AI Innovation Lab   **Aug. 2022 – March 2024**
Senior Software Engineer, AI Innovation Lab   **April 2024 – June 2024**
- Built GenAI Hub, an observability and cost management platform for cross-vendor LLM services.
- Built a library for building Digital Assistants capable of making calls to any REST APIs.
- Built a Gen AI powered customer analysis and personalized product recommendation engine.
- Led the charge to develop finetuning and self hosting capabilities with LLM's
- Engineered cancer detection and segmentation systems, aiding oncologists in precise patient care.
- Created a low-code Federated Learning platform with a distributed backend for improved efficiency and collaboration.

Persistent Systems   **March 2021 – April 2021**
Intern   *Goa, India*
- Designed and implemented an illustrative experiment to showcase the practical applications of federated learning, offering clients a tangible demonstration of its advantages.
- Authored a blog post discussing the research findings, the example experiment, and their implications: https://neil-botelho.medium.com/

Blue Marble Space Institute of Science   **June 2019 – December 2019**
Research Associate
- Conducted in-depth research focusing on evaluating the effectiveness of specific machine learning models in predicting the habitability of exoplanets.
- Explored the applicability of machine learning in identifying key features for predicting a planet's habitability.
- Developed an ethics case study centered around the ethical considerations in the realm of Big Data.

EDUCATION

Goa College of Engineering   **Sept, 2022**
Bachelor of Engineering , Computer Engineering   *Goa, India*
- Successfully organized and led a prestigious national-level technical conference, DebUtsav Goa, during my tenure on the council, bringing together experts, enthusiasts, and students to celebrate and explore the world of open source software.
- Co-founded and served on the founding council of the college's FOSS club, dedicated to promoting the principles of open source software.

SKILLS & INTERESTS

- **Skills:** Fine tuning Large Language Models(LLMs), NLP Computer Vision, AI in Medical Imaging, Python, FastAPI, Tensorflow, PyTorch, Golang, C++, Rust, MLFlow
- **Interests:** Piano(hobbyist); coffee connoisseur; reading; strength training

NOTABLE PERSONAL PROJECTS

Bring multithreading to Python's async   **Sept, 2024**
- Designed and developed a custom asyncio compatible event loop that utilizes multiple threads to execute tasks
- Wrote a simple FastAPI compatible ASGI server using this event loop to enable multithreaded serving of API's

Emotion based content discovery   **Sept, 2022**

Discover music through emotions
- Designed and developed an innovative music discovery platform driven by a custom machine learning algorithm
- Developed a custom machine learning model to convert songs to emotions
- Crowd sourced a custom dataset mapping songs to emotions. Built our own data collection platform for creation of the model.

IRC-ish   **Sept, 2020**

IRC style sockets based chat server in golang
- Implemented IRC-style features, including channels and user commands, for a unique chat experience.
- Maintained a detailed design document to track project evolution and concurrent system design principles.

VOLUNTEER WORK

pip - Contributor
llama_index - Contributor
NetworkX - Contributor
FreeCodeCamp, Goa - Volunteer
Google Developers Group, Goa - Volunteer
DevCluster, Goa - Volunteer

LINKS:

Github: github.com/NeilBotelho
LinkedIn: linkedin.com/in/neilbotelho
Personal Projects: neilbotelho.onrender.com