Vaishnavi Venkateswaran

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EDUCATION

New York University (NYU) , Courant Institute of Mathematical Sciences *New York, NY*
Master of Science in Computer Science, GPA: 3.834 *Jan 2024 - May 2025*
Coursework: Databases, Cloud and ML , Machine Learning, OS, Fundamental Algorithms, Networks, Finance (Stern)
Graduate Assistant : Deep Learning under Professor **Yann Lecun**.

National Institute of Technology - Trichy (NIT - Trichy) *Trichy, India*
Bachelor of Technology, ICE, WES GPA: 3.72 *June 2017 - May 2021*
Coursework: Data Structures and Algorithms, Data Analytics, Big Data Analytics, Network Security

TECHNICAL SKILLS

Languages: C++, Python, Java, JavaScript, SQL, Perl; **Machine Learning:** Pytorch, Keras, Numpy, Pandas, Tensorflow;
Full Stack: GCP, Oracle Cloud, CUDA, Docker, Kubernetes, Terraform, Linux, CI/CD, React, Git, Jenkins, REST APIs

WORK EXPERIENCE

ORACLE , *MTS at Oracle Cloud Infrastructure,* *Bengaluru, India* *July 2021 – Dec 2023*

- Engineered comprehensive UI automation for over 15 features in Oracle Cloud Infrastructure (OCI), leveraging **Java, Perl scripts, Linux systems, SQL, Postman, Terraform, and Jenkins.**
- Led biweekly sign offs which included functionality tests of secure RESTful APIs from the UI to the Control Plane.
- Had ownership of 5 data-centers in **OCI UI**, and served as POC for Voluntary Product Accessibility (VPAT) testing.
- Designed and developed a **CI/CD pipeline** from the ground up for over 40 APIs supporting **OBO (On Behalf Of) token functionalities**, significantly accelerating deployment cycles and improving API testing workflows.
- Architected a **robust testing framework** for **Oracle Machine Learning (OML) UI**, applying expertise from previous OCI UI work to improve reliability and performance in testing scenarios.
- Developed and implemented **security regression tests** for **OML**, with a focus on preventing vulnerabilities such as **SQL Injection**, **Resource Injection**, and ensuring comprehensive **grant-based security** coverage.
- Spearheaded test migration initiatives for Oracle MultiCloud Solutions, successfully integrating testing frameworks with **Azure, GCP, and AWS** platforms, ensuring seamless compatibility across multiple cloud environments.

FIDELITY INVESTMENTS, *Software Development Intern,* *Chennai, India* *May 2020 – July 2020*

- Developed a client message prioritization tool for the Advisor Analytics website using **Natural Language Processing (NLP)** techniques, leveraging the Naïve Bayes classifier to categorize client messages into 4-5 distinct categories, improving message handling efficiency.
- Built and simulated the web application using React, creating a responsive and user-friendly interface that streamlined the advisor's workflow and enhanced user experience.

PROJECTS

Colorizer *(Under the guidance of Dr. Hao Yu and Hsin Chung, NYU)*

- Redesigned the famous Colorizing open source model, DeOldify, as an application.
- Compared the performance of DeOldify, which uses NoGAN training, with GAN training-based models.
- Conducted **GPU** analysis - roofline analysis and FLOPs to evaluate model performance in **GCP**.
- Created virtual machines across multiple zones using **CUDA** disk images, then containerized the application with **Docker** and orchestrated it using **Kubernetes** for streamlined deployment and enhanced scalability.

Kaizen *(HooHacks , University of Virginia)*

- Collaborated with a team of 4 to transform lecture video links into concise notes and explanatory video links.
- Leveraged **React, Node.js, MongoDB, and Azure OpenAI's** transcript API which implements transcription, summarization and entity recognition.

Model Order selection - Neurophysiology *(Under the supervision of Dr. Fraida Fund, NYU)*

- Leveraged Python, linear regression, and K-fold cross-validation to predict hand motion from neural signals.
- Improved model accuracy by increasing R^2 score from 0.45 to 0.60 using feature engineering and optimization.

Covid-19 detection using Chest X-Rays *(Under the guidance of Dr. Balaji Ganesh R, NIT Trichy)*

- Implemented a paper identifying that the majority of COVID-19-positive cases presented bilateral radiographic abnormalities in CXR and CT scans.
- Trained a Convolutional Neural Network (**CNN**) model to predict COVID-19 infection based on new chest X-ray data using open source chest X-ray datasets for model training.
