J. JOHN ROHIT ERNEST
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OBJECTIVE

To pursue graduate studies in Artificial Intelligence, leveraging my passion for machine learning and deep learning to contribute to groundbreaking research and development. Seeking an opportunity to expand my expertise and aiming to be at the forefront of AI advancements.

ACADEMIC QUALIFICATION

B.Tech in Electronics & Communication, Vellore Institute Of Technology, Chennai, India **July 2019 - July 2023**
CGPA: 9.23/10.00

ACADEMIC PROJECTS

Title: Heartbeat Classification in ECG Signals **Aug 2021 – Nov 2021**
Summary:
Led a team of 2 and developed a model that combines the power of Continuous Wavelet Transform (CWT), Convolutional Neural Networks (CNN), and Long Short-Term Memory (LSTM) to effectively detect and classify different types of heartbeats in electrocardiogram (ECG) signals.

Title: Music Recommendation System **Aug 2021 – Dec 2021**
Summary:
Led a team of 2 and developed a recommendation system employing collaborative filtering techniques, which analyzes and learns from users' previous listening behaviors to offer highly accurate song recommendations aligned with their preferences and optimize their future listening experiences.

Title: Urban Sound Classification **July 2021 – Aug 2021**
Summary:
Utilized the power of Deep Learning and leveraged the Librosa library to construct a model capable of accurately classifying environmental sounds, specifically identifying urban sounds. This innovative approach enables precise recognition and categorization of various urban soundscapes for enhanced analysis and understanding of urban environments.

Title: Mortality Predictions in ICU **June 2021 – July 2021**
Summary:
Designed an Artificial Neural Network (ANN) model specifically tailored for predicting patient mortality in ICU settings.

Title: Hostel Allocation System **Feb 2021 – May 2021**
Summary:
Developed a dynamic website, leveraging HTML and CSS for the frontend, and Django for the backend, to facilitate the optimal pairing of roommates in hostels. Employed a robust stable matching algorithm to ensure that the resulting roommate assignments are stable, with no instances of mutual preference between roommates. The website provides a seamless and user-friendly experience for finding the best and most compatible roommates in hostel settings.

Title: Note Recognition in Audio Files **July 2020 – Nov 2020**
Summary:
Led a team of 3 and designed a model employing signal processing algorithms to accurately identify and classify individual musical notes within an audio file based on their corresponding frequencies.

PROFESSIONAL EXPERIENCE

Technological Consultant [PricewaterhouseCoopers India, Bhubaneshwar, India] **July 2023 - Present**

- Specializing in the integration and application of Emerging Technologies with a primary focus on generative AI to drive advancements in healthcare.
- Regularly engage with cross-functional teams, including healthcare professionals, to tailor generative AI solutions to meet specific clinical demands
- Playing a pivotal role in a project harnessing generative AI to automatically produce captions for medical scan images, significantly enhancing diagnostic accuracy and efficiency.

INTERNSHIPS

Research Intern [PricewaterhouseCoopers India, Bhubaneshwar, India] **Jan 2023 – July 2023**
Embarked on a project with a primary focus on prognosticating water quality using advanced Machine Learning (ML) algorithms. The primary objective was to construct a model capable of proficiently scrutinizing diverse parameters and attributes of water samples to evaluate and anticipate their quality.

Research Intern [Indian Institute of Technology, Kanpur, India (remote)] **June 2022 – Nov 2022**
Developed a model leveraging powerful natural language processing (NLP) techniques to automatically generate multiple-choice questions from chemistry-related text. This model serves as a valuable tool for school students, enabling them to efficiently review and reinforce their understanding of chemistry concepts. By applying NLP methodologies, the model facilitates an effective and engaging approach to concept revision, enhancing students' learning experiences in the field of chemistry.

Research Intern [Nagasaki University, Japan (remote)] **June 2022 – Sep 2022**
Explored various segmentation models including U-Net, Attention U-Net, and Attention Res-U-Net to develop an advanced network called the Double Attention U-Net. This novel segmentation network incorporates the features of both squeeze excitation and embedded attention mechanisms to accurately delineate tumor boundaries in MRI images. The Double Attention U-Net network enhances the performance and precision of tumor segmentation, paving the way for improved diagnosis and treatment planning in medical imaging applications.

PRISM Developer [Samsung R&D Institute India, Bangalore (remote)] **June 2021 – Feb 2022**
Engaged in the development of a model empowered by Generative Adversarial Networks (GANs) to synthesize realistic reflections in a burst of images, leveraging a single input image. This innovative model enables the generation of compelling reflections, enhancing the visual appeal and realism of the image burst

TECHNICAL SKILLS
- **Programming Skills**: Python, C++, Javascript, R
- **Web Development**: HTML, CSS, Django, Flask, React
- **Databases**: MySQL
- **Data Science Skills**: Data Analysis, Data Visualization, Statistical Analysis, Machine Learning
- **Computer Vision:** Image Processing, Object Detection, Image Classification
- **NLP**: Text Classification, Sentiment Analysis, Named Entity Recognition
- **Deep Learning Frameworks**: Tensorflow, Pytorch, Keras

CERTIFICATIONS
- AI for Medical Diagnosis, by DeepLearning.AI, June 2022
- Prepare Data for Exploration by Google, Coursera, May 2022
- Computer Vision Bootcamp with Python (OpenCV) - YOLO, SSD, Udemy, Jan 2022
- AWS Certified Cloud Practitioner, Amazon, Aug 2021
- Ask Questions to Make Data Driven Decisions, by Google, Coursera, Aug 2021
- Foundations: Data, Data, Everywhere, by Google, Coursera, Aug 2021
- AWS Certified Cloud Practitioner, Aug 2021
- Generative Adversarial Networks (GANs) Specialization, by DeepLearning.AI, Coursera, June 2021
- Python for Data Science, AI, and Development, by IBM, Coursera, Jan 2021
- Data Analysis with Python, by IBM, Coursera, Dec 2020
- Key technologies for business specialization, by IBM, Coursera, Nov 2020
- Data Science Methodology, by IBM, Coursera, Nov 2020
- Databases and SQL for Data Science, by IBM, Coursera, Nov 2020
- Introduction to Statistics & Data Analysis in Public Health, by Imperial College London, Oct 2020

ACHIEVEMENTS
- Presented a Research Paper on "Squeeze Excitation Embedded Attention U-Net for Brain Tumor Segmentation" at NIT Silchar, India, Dec 2022
- Certificate of Appreciation for successfully completing the project on “ChemQuiz – Automated Chemistry Quiz Generation System” under Dr. Arnab Bhattacharya, Department of Computer Science and Engineering, Indian Institute of Technology Kanpur, India, Dec 2022
- Certificate of Appreciation for successfully completing the Summer Internship Project on “Squeeze Excitation Embedded Attention U-Net for Brain Tumor Segmentation” under Dr. Kavitha, School of Information & Data Sciences, Nagasaki University, Japan, Oct 2022
- Certificate of Excellence for successfully completing the worklet i.e., AI-based Multi Frame (Burst) synthetic data generation for reflection removal as part of Samsung PRISM, Feb 2022
- HackerRank Problem Solving - 5 star, Oct 2021
- Certificate of Appreciation for reaching the final round of the Tetraflip’21 Hackathon organized by the Android Club of VIT Chennai, May 2021
- Certificate of Appreciation for fulfilling the duty as a Mentor for students at Pentecost University, Ghana as part of the workshop on Artificial Intelligence organized by the Centre for Advanced Data Science, VIT Chennai, India, June 2021
- Certificate of Recognition for successful participation in Illuminate – 2020 organized by the Entrepreneurship Cell, IIT Bombay, India, Oct 2020

LEADERSHIP ROLES
Ranking Member, IEEE Computer Society, VIT Chennai, India
As part of the leadership group at the IEEE Club, one of my key responsibilities was organizing workshops on AI and M.L. specifically tailored for freshers. These workshops were designed to provide a comprehensive introduction to the principles and applications of AI and Data Science through hands-on activities, practical examples, and interactive sessions.

Ranking Member, Google Developer Student’s Club (GDSC), VIT Chennai, India
As part of GDSC, I actively spearheaded impactful mini-projects on AI within the club. These projects provided an excellent opportunity to apply AI concepts to real-world scenarios, fostering a deeper understanding of this transformative field.

Ranking Member, Editorial Team, The Capsule, VIT Chennai, India
The Capsule is a Student Magazine Club of VIT Chennai. My role in the club was to review and modify content in a manner that makes the piece inspirational and creates an impact on the reader.