NITISH RAMARAJ

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Mangalore, Karnataka - India

EDUCATION

- **Vellore Institute of Technology** *Aug 2021 - July 2025*
  Bachelor of Technology Vellore, India
  ◦ GPA: 8.76/10

EXPERIENCE

- **National Institute of Technology- Karnataka** *May 2024 - Aug 2024*
  Research Assistant Surathkal, India
  ◦ Investigated advanced neural network architectures, including Vision Transformers (ViT) and CNNs, for Cerebral Arterial Stroke Imaging.
  ◦ Applied transfer learning and fine-tuning techniques on pre-trained models for improved feature extraction, enhancing diagnostic precision.
  ◦ Implemented ensemble learning methods to combine model predictions and utilized cross-validation techniques to ensure robustness and generalizability in prognostic outcomes.

- **Invenger Technologies** *Dec 2022 - Dec 2023*
  SDE Intern Mangalore, India
  ◦ Implemented and customized ERP systems for global manufacturing industries, enhancing operational efficiency through tailored configurations.
  ◦ Integrated multiple vendor APIs to develop a custom module for automated order creation, establishing a workflow that eliminates human intervention.
  ◦ Recognized with the Best Intern Award for achieving high client satisfaction and project success.

PROJECTS

- **Brain Tumor Detection in MRI Scans with VGG19** *Apr 2024*
  Tools: [Tensorflow, Keras, DICOM, Albumentations]
  ◦ Developed an image classification model with the VGG19 architecture to detect brain tumors in MRI scans, achieving over 80% accuracy on a dataset of 10,000 labeled images.
  ◦ Employed advanced data augmentation strategies, including CutMix and MixUp, in conjunction with transfer learning, to enrich the training dataset and significantly enhance model generalization.

- **AI-Powered Patient Summary Generator** *Dec 2023*
  Tools: [NextJS, Azure, OpenAI, Puppeteer]
  ◦ Developed a full-stack Next.js application enabling healthcare providers to upload medical records for AI-generated summary reports.
  ◦ Integrated Open AI's GPT API to analyze patient vitals and identify serious abnormalities, enabling doctors to quickly access essential patient information.

- **Campus Marketplace for Sustainable Reselling** *Sept 2022*
  Tools: [MongoDB, Express, React, Node.js, AWS]
  ◦ Developed a MERN platform for buying and selling pre-owned items safely within the campus community.
  ◦ The platform connected over 200 buyers and sellers within the campus community.
  ◦ An award-winning project at the annual university hackathon under the theme "Sustainable Commerce for a Greener Campus."

- **Automated Free Slot Detector** *Jan 2022*
  Tools: [OpenCV, Pandas, Flask]
  ◦ Developed a tool using OpenCV and Python to analyze the daily timetables of multiple students and identify common free slots for conducting meetings.
  ◦ Utilized by VIT University Clubs and Chapters to improve their meeting planning based on team members' availability.

Research Publications

[1] Nitish Ramaraj, Girish Murugan, Dr. Rajeshkannan Regunathan. (2024). Neural Network-Powered Conductorless Ticketing for Public Transportation. In Proceedings of the 4th International Conference on Pervasive Computing and Social Networking, IEEE. DOI:10.1109/ICPCSN62568.2024.00047.

[2] Nitish Ramaraj, Girish Murugan, Tejas Anil, Dr. Rajavarman, Dr. Vetriselvi T. (2024). Edge AI-Based Smart Classroom with Dynamic Student Attentiveness Monitoring. In Proceedings of the 7th International Conference on Newer Engineering Concepts and Technology. Springer. [Accepted and under publication].

[3] Nitish Ramaraj, Girish Murugan, Dr. Rajeshkannan Regunathan. (2024).Securing Healthcare Data: A Behavioural Biometrics Approach using One-Class SVM. In Research Advancements in Intelligent Computing and Network Technologies. 2024 Sixth International Conference on Computer Safety Technologies. Taylor and Francis. [Accepted and under publication].

[4] Nitish Ramaraj, Girish Murugan, Tejas Anil, Dr. Vetriselvi T.(2024). Patient Medical Report Analyser: A Multi-Stage Workflow Integrating Image Processing, OCR, and Language Models for Summarization. In Proceedings of the International Conference on Progressive Computational Intelligence, Information Technology, and Networking, Taylor and Francis journal. [Accepted and under publication].

Skills

- **Programming Languages:** C/C++, Python, Java, and JavaScript
- **Frameworks:** TensorFlow, Keras, Langchain, Node JS, React, React Native, and TailwindCSS
- **Database Systems:** MySQL, PostgreSQL, Pinecone, and MongoDB
- **Software Functional Skills:** Odoo ERP, Figma, Jira, Salesforce, and Canva

Leadership & Volunteer Experience

- **Technical Director** *Jan 2024 - Present*
Institutions Innovation Council, VIT Vellore

  - Directed a team of 20, assessed student startup proposals, provided guidance on technical frameworks, and organized workshops on innovation and entrepreneurship.
  - Partnered with university staff and management to encourage student innovation and entrepreneurship, supporting a government directive.
  - Worked with over 30 universities around India, the IIC council, and the All India Council for Technical Education department to bridge the gap between student ideas and execution.

- **Social Outreach Manager** *Sept 2021 - Jan 2023*
Indian Society for Technical Education, Vellore

  - Assisted in distributing meals to the needy, tackling hunger issues, and aiding the local community.
  - Led a successful fundraising drive to supply essential resources for school children, meeting their educational needs.
  - Partnered with local authorities in tree-planting efforts and public space clean-ups, encouraging a "Go Green" attitude in the community.

- **Senior Committee Member** *Aug 2021 - Sept 2022*
Leo Club, Vellore

  - Engaged with high school students through informative sessions, helping them explore engineering as a potential career path.
  - Taught basic computer skills to over 500 high school students, aiding them in gaining essential foundational knowledge on using computers.
  - Assisted approximately 100 high school students with mental health support through classroom sessions, providing practical tips and strategies for managing mental health issues.