NANDINI DEVARAJ

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SUMMARY

Research Engineer & AI/ML Engineer with 3.5+ years experience in Healthcare Tech, Master's in Artificial Intelligence. NOTT Awardee and recognized for improving patient care efficiency by 20% using Python and Logistic Regression and reducing training time by 70% using AI-driven solutions.

TECHNICAL SKILLS

- **AI/ML:** Machine Learning | Deep Learning | Natural Language Processing | Computer Vision | Reinforcement Learning | Statistics |
- **Languages:** Python | SQL | C | C++| HTML | CSS | JavaScript | C# |
- **Frameworks**: PyTorch | TensorFlow | Scikit-learn | Hugging Face | ML-Agents | OpenCV | spaCy |
- **Tools**: Git | Unity | VR | PyPDF2 | Pandas | NumPy | Matplotlib | Power BI | Seaborn | Microsoft Excel | Word | PowerPoint
- **Databases**: Oracle, DBMS, RDBMS

PROFESSIONAL EXPERIENCE

1. Oracle Cerner (Cerner Healthcare Solutions) Jan'21 – Jun'24
Associate Senior Software Engineer *Bengaluru*

- Designed, implemented, and evaluated a predictive machine learning model using Python and Logistic Regression on health data.
- Optimised model performance, achieving a **20%** increase in operational efficiency in patient care.
- Developed and optimized 500+ custom reports, stored procedures, and ETL scripts for data extraction, transformation, and reporting, thereby improving system efficiency and team productivity by **30%.**

2. Kirusa Software Private Limited Jan'20 – Jun'20
Software Intern *Bengaluru*

- Enhanced Kirusa Instavoice and DotGo RCS billing web applications by implementing features such as login forms and navigation bars using ReactJS, JavaScript, HTML, and CSS.

RESEARCH EXPERIENCE

Reinforcement Learning for Robotic Welding Simulation in Unity and VR (Deep Neural Network VR, ML-Agents)

- Developed a reinforcement learning–based VR welding simulation in Unity using ML-Agents and TensorFlow, achieving >85% trajectory accuracy and reducing training time by 70% through repeatable virtual sessions.
- Integrated real-time sensor data from NOVA SenseGlove and Oculus Quest 3 to simulate human-like control, enabling scalable training and projected cost savings of $1,000+ per trainee compared to physical practice.

PROJECTS

Voice-Driven AI Assistant for Automated Medical Form Filling (BERT, Hugging Face Transformers, spaCy, NLP, PyPDF**)**

- Built a voice-driven AI system to automate clinical documentation using Whisper ASR, BERT-based NLP, and spaCy, achieving 90% + entity extraction accuracy on custom medical templates.
- Applied NER, intent classification, and semantic parsing to map speech to structured form fields, reducing manual entry time by 60% and enabling future EHR/FHIR integration via rule-augmented PDF parsing with PyPDF2.

Med Explain: LLM-based Layman Medical Report Explainer & Q&A Assistant (LLM, QA, Transformer Architectures, LangChain)

- Built a medical report explainer using LLaMA-2 with custom prompt engineering and simplification pipelines, achieving >88% layman readability on clinical documents.
- Enabled real-time Q&A via LangChain-RAG on medical PDFs, helping users bypass 60% of non-critical doctor consultations in simulated patient queries.
- Integrated Whisper ASR and Gradio UI for voice-based interaction, making medical understanding accessible to low-literacy users.

Fake News Detection using Machine Learning and NLP (Python, Scikit-learn, NLP, TF-IDF)

- Built and evaluated a machine learning pipeline to detect fake news articles, leveraging NLP techniques and Scikit-learn classifiers.
- Implemented TF-IDF vectorization and trained multiple models (Logistic Regression, Passive Aggressive Classifier) to classify text with >92% accuracy.
- Conducted exploratory data analysis, text preprocessing, and evaluated model performance using confusion matrix and accuracy metrics.

EDUCATION

Illinois Institute of Technology, Chicago, IL - *Master of Applied Science, Artificial Intelligence* (3.2/4) Aug'24 – Dec'26

- **Coursework:** Advanced Artificial Intelligence, Computer Vision, Machine Learning, Deep Learning, NLP.

Reva University, Bengaluru, India - *Bachelor of Technology, Computing Science and Engineering* (3.4/4) Aug'16 – Oct'20

- **Coursework:** Data Structures, Algorithms, Python, Machine Learning, DBMS.