B S Shreesha

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Summary

An aspiring academic and passionate educator with a strong foundation in Data Science. Actively engaged in research involving Deep Learning and Computer Vision, with particular interest in Advanced Neural Network architectures and Mathematics. Motivated to pursue a career in teaching and research, with the long-term goal of contributing to higher education as a professor.

Work Experience

Research Intern — CSIR, 4th Paradigm Institute Aug 2024 – Feb 2025

Conducted research on AI-integrated healthcare systems with a focus on data-driven medical solutions. Worked on applying deep learning techniques for healthcare analytics, experimentation, and result interpretation.

Research Intern — CIIRC Jun 2024 – Jan 2025

Worked on end-to-end machine learning and deep learning pipelines including data preprocessing, model training, evaluation, and deployment. Focused on applying advanced neural network architectures to real-world problem statements with emphasis on performance optimization and model interpretability.

Education

2025 – 2027 **Master of Technology (MTech) – Data Science** **CGPA: / 10**
JSS Academy of Technical Education **July 2027**
Visvesvaraya Technological University (VTU), India
Postgraduate Coursework

2021 – 2025 **B.E in Information Science and Engineering** **CGPA: 8.86 / 10**
Jyothy Institute of Technology **July 2025**
Visvesvaraya Technological University (VTU), India
Undergraduate Coursework: Python, Deep Learning model for Paddy Disease Classification

2019 – 2021 **Pre-University Education** **Percentage: 93.6%**
Narayana PU College **June 2021**
Department of Pre-University Education (DPUE), India

2007 – 2019 **Schooling (CBSE)** **Percentage: 87%**
Capitol Public School **May 2019**
Central Board of Secondary Education (CBSE), India

Academic Projects

Physics Informed Neural Network (PINNs) Implementation Implementation Details

Developed implementations of Physics Informed Neural Networks that integrate governing physical laws, expressed as partial differential equations, into the learning objective. The project explores training neural networks to satisfy both data and physics constraints for improved generalization on scientific problems. Source code and detailed notebooks are available upon request.

Explainable CNN–Vision Transformer Ensemble for Breast Cancer Diagnosis

Developed an ensemble learning framework combining Convolutional Neural Networks (DenseNet121) and Vision Transformers (ViT-L32) for histopathological breast cancer image classification. The project focused on capturing both fine-grained local features and long-range contextual information to improve classification performance across multi-class and binary datasets. Explainable AI techniques using LIME were employed to interpret model predictions and highlight clinically relevant image regions, enhancing transparency and trust in model decisions. Model implementations and experimental details can be shared upon request.

Mobile Vision Transformer Based Paddy Disease Diagnosis with Explainability

Implemented lightweight Mobile Vision Transformer (MobileViT) architectures for automated classification of paddy crop diseases from field images. The study evaluated multiple MobileViT variants to balance classification accuracy and computational efficiency for resource-constrained settings. Model interpretability was enhanced using LIME-based visual explanations to identify disease-affected regions, supporting transparent and reliable decision-making in agricultural image analysis. Source code and experimental results are available upon request.

Education Management System Implementation Details

Designed and implemented a Learning Management System to support academic course and student information handling. The system facilitates user authentication, role-based access, course administration, and assessment tracking, demonstrating database integration and MVC-based web application design principles.

Skills

Programming Languages	Python, C
Data Science & Machine Learning	Machine Learning, Deep Learning, Reinforcement Learning, Feature Engineering, Model Evaluation
Deep Learning & Computer Vision	Convolutional Neural Networks (CNN), Capsule Networks, MobileViT, Physics-Informed Neural Networks (PINN), OpenCV
Libraries & Frameworks	NumPy, Pandas, Scikit-learn, TensorFlow, Matplotlib
Tools & Platforms	Git, GitHub, Linux, Windows, Command Line
Soft Skills	Problem Solving, Analytical Thinking, Teamwork, Communication, Time Management

Teaching Experience

Peer Teaching and Academic Instruction Experience

- Conducted **24 days of instruction** on *Coding Mathematics using Python* for first-year engineering students (2023 and 2024 batches), focusing on problem-solving and mathematical reasoning.
- Delivered a **2-day workshop** on *Artificial Intelligence for Interdisciplinary Sciences (Biology)* at **CIIRC, Bengaluru**, introducing AI concepts and applications in biological research.
- Taught a **3-day module on Game Development Tools**, covering Object-Oriented Programming principles, audio integration, and music recording tools.
- Conducted **16 hours of hands-on teaching** on *Matplotlib* for sixth-semester undergraduate students, emphasizing data visualization and analytical interpretation.
- Delivered **14 hours of instruction** on *Essential Mathematics for Machine Learning* to MTech Data Science students as part of a **peer-to-peer learning programme**.