SEHASTRAJIT SELVACHANDRAN

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EDUCATION

M.S. in Computer Science Expected May 2027
Arizona State University, Tempe, AZ
Relevant coursework: Machine Learning, Data Processing at Scale, Knowledge Representation, Data Visualization

B.Tech. in Computer Science (AI & ML Specialization) Jul 2025
Vellore Institute of Technology, Chennai, India
Relevant coursework: Deep Learning, Image Processing, Natural Language Processing

SKILLS

AI & LLMs: LLM-based assistants, prompt and system-instruction design, retrieval-augmented generation (RAG), evaluation of chatbot responses, safety and guardrail awareness
Product & Workflow Design: Use-case definition, content structuring, documenting flows, requirements gathering, writing clear guidelines and FAQs for non-technical users
Machine Learning & Data: Supervised/unsupervised learning, model evaluation, experiment design, feature engineering, data preprocessing and analysis
Tools & Platforms: Python, TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, Jupyter, Matplotlib, Streamlit, Git, Linux
Professional: Communication with non-technical stakeholders, documentation, collaboration in cross-functional teams, remote teamwork, time management

EXPERIENCE

ASU AI Scholars Program (SkySong Innovation Center), Tempe, AZ: AI Scholar Aug 2025 – Present

- Participated in applied AI projects focused on **improving student and stakeholder experiences** using machine learning and large language models.
- Worked with mentors and peers to **translate high-level use cases** (e.g., student support, information organization) into structured AI workflows and prototypes.
- Produced clear documentation and short presentations to explain AI system behavior, limitations, and usage to non-expert audiences.
- Practiced responsible AI principles and alignment with institutional goals, mirroring the values-driven approach of ASU's CreateAI platform.

Omdena, San Jose, CA (Remote): Machine Learning Engineer Intern Jul 2024 – Oct 2024

- Collaborated with an international, cross-functional team to build ML solutions for real-world problems, balancing technical performance with usability.
- Cleaned and organized large datasets, designed training pipelines, and evaluated models while maintaining **thorough experiment logs and documentation**.
- Explained model behavior, metrics, and trade-offs in simple terms so project stakeholders could make informed decisions without deep ML expertise.
- Followed structured workflows for version control, experimentation, and review, similar to building and iterating on assistants in a platform like CreateAI Builder.

Auburn University, Remote: Research Intern Aug 2023 – Jan 2024

- Developed and evaluated deep learning models for biomedical signals, requiring careful handling of sensitive data and **attention to reliability and ethics**.
- Documented experimental setups, results, and limitations in a way that supported both research collaborators and future extensions.
- Communicated progress regularly in a remote environment, using written updates and slide decks to keep the team aligned.
- Strengthened skills in **designing explainable workflows**, which transfer directly to building trustworthy AI assistants for students and faculty.

Larsen & Toubro Limited, Chennai, India: Development (Part-Time) Jan 2022 – Dec 2023

- Contributed to the **design and implementation of a lagooning system** as part of a sustainable wastewater management process for the CMRL Phase II project at Venugopal Nagar station.

- Supported planning and monitoring of groundwater recharge structures that directly addressed regional water scarcity and improved water availability for nearby communities.
- Collaborated with on-site engineers and construction teams to ensure solutions met project requirements, safety standards, and environmental sustainability goals.
- Gained hands-on experience working in an interdisciplinary civil infrastructure environment, strengthening practical problem-solving and teamwork skills.

VOLUNTEER & SUSTAINABILITY EXPERIENCE

URC Construction (P) Ltd, Chennai, India: Program Coordinator – CSR Medical Camp Apr 2023

- Coordinated a **Medical Camp & Health Awareness Program** under URC's Corporate Social Responsibility (CSR) efforts, supporting over 40 underserved individuals.
- Managed volunteer workflows, registration, scheduling, and on-site logistics in collaboration with healthcare professionals.
- Helped document outcomes and impact, strengthening community engagement around preventive care and health education.

URC Construction (P) Ltd, Chennai, India: Environmental Volunteer Jun 2024

- Actively participated in an **Environmental Awareness Rally** focused on waste management and promoting a plastic-free zone.
- Engaged community members in discussions about sustainable practices and supported event logistics and outreach.
- Reinforced a strong commitment to environmental stewardship and public awareness on climate and waste issues.

SELECTED PROJECTS

TITANS: LLM-Based Conversational Agent Jan 2025 – May 2025

Custom transformer-based conversational agent with long-context memory for reasoning tasks.

- Implemented and fine-tuned a transformer model with memory modules to **maintain context across multi-step conversations**, similar to AI assistants built on top of enterprise LLMs.
- Designed system prompts and response formats to keep outputs **helpful, structured, and aligned with user goals**.
- Evaluated responses for correctness, clarity, and usefulness, iterating on instructions and data to improve user experience.
- Experience here directly supports **configuring LLMs, writing instructions, and testing assistants** in CreateAI Builder.

Diabetic Retinopathy Detection (Hybrid CNN + ViT) Aug 2024 – Dec 2024

Hybrid ResNet–ViT classifier for medical image analysis using TensorFlow and PyTorch.

- Preprocessed multiple medical image datasets, designed augmentation strategies, and compared deep architectures in a **structured, experiment-driven workflow**.
- Logged experiments, hyperparameters, and results to enable reproducibility and transparent decision-making.
- Communicated key insights, limitations, and ethical considerations for model usage to non-technical collaborators, reinforcing the importance of **responsible, explainable AI**.

Blue Zone Longevity Analysis (ML + Streamlit App) Jul 2024 – Oct 2024

End-to-end ML pipeline with a user-friendly app to explore and explain longevity-related data.

- Built an interactive Streamlit interface that allowed non-technical users to explore predictions, filters, and explanations without touching code.
- Translated technical model outputs into **plain-language narratives and visualizations**, similar to guiding students or staff through AI-powered tools.
- Designed the app flow to feel like a **guided assistant**, helping users ask questions about the data and understand the results step-by-step.

PUBLICATIONS

- **S. Sehastrajit** *et al.*, "Pipelined Structure in the Classification of Skin Lesions Based on AlexNet CNN and SVM Model With Bi-Sectional Texture Features," *IEEE Access*, Vol. 12, Apr. 2024. 10.1109/ACCESS.2024.10496674
- **S. Sehastrajit** *et al.*, "Comparative Performance of Deep Learning Architectures for Diabetic Retinopathy Detection," *Int. J. Ad Hoc Ubiquitous Comput.*, Sep. 2023. 10.1504/IJAHUC.2023.133449
- **S. Sehastrajit** *et al.*, "Advances and Future Perspectives in Parkinson's Disease Detection," *Evolutionary Intelligence*, Jul. 2023. 10.1007/s12065-023-00859-7
- **S. Sehastrajit** *et al.*, "Statistical Features from VMD Levels for Sleep Apnoea Classification," *Int. J. Bioinformatics Res. Appl.*, Sep. 2024. 10.1504/IJBRA.2024.141381