ADVITH KRISHNAN

+91-9840737984 ◇ advithkrishnan@gmail.com ◇ LinkedIn ◇ GitHub ◇ Google Scholar ◇ Portfolio/advithkrishnan.com

PROFESSIONAL SUMMARY

Software Engineer specializing in multi-agent systems, RAG frameworks, and niche AI systems. Backed by experience at NASA, ETH Zurich, MIOT International and early-stage startups, I'm capable of developing end-to-end AI applications based on a project's requirements, from research to prototyping to full-stack development & deployment.

EDUCATION

B.Tech in Artificial Intelligence — Aug 2021 - Aug 2025
SRM Institute of Science and Technology — **CGPA - 8.44/10.00**
Relevant Coursework: Neural Networks and Machine Learning, Inferential Statistics, Deep Learning Techniques, Design in Artificial Intelligence Products, Advanced Calculus, Image and Video Processing, Reinforcement Learning.

EXPERIENCE

Software Engineer — Apr 2025 - Sept 2025
StejasSYS — *Atlanta, USA (Remote)*

- Deployed AI models using GCP and built CRUD flows connecting to Supabase DB, Databricks and Directus for headless CMS, reducing friction between research prototypes and client-facing apps.
- Implemented **proprietary E2E RAG, Agentic and Computer Vision features** for clients in the Health industry.
- Acted as a full-stack engineer, delivering on frontend, backend, and DB tasks, apart from primary responsibilities.
- Designed complementing NextJS frontends and well-documented FastAPI webhooks, adhering to project requirements.

Research Intern — Aug 2024 - Mar 2025
ETH Zurich — *Zurich, Switzerland (Remote)*

- Simulated motor neuron behavior to understand PNS recruitment patterns for a research project under the Institute of Neuroinformatics & Neural Bionics Lab at Chalmers Institute of Technology using NEURON and NEST frameworks.
- Single-handedly **programmed customizable nerve fiber models** to simulate 3 invasive neurological experiments.
- Explored deployment strategies of modulatory intraneural models on a mixed neuromorphic chip.

AI Engineer Intern — Dec 2023 - Jul 2024
MIOT International — *Chennai, India (Onsite)*

- Researched and implemented **2 anchor few-shot models using PyTorch, Weights and Biases, etc**. for shoulder-bone loss estimation & identification of shoulder dislocation type, utilizing only 60 patient scans for training.
- Fine-tuned models to improve diagnostic consensus across 57 surgeons, **reducing decision-making conflicts.**
- **Created analytics reports with Tableau** and conducted lectures on deep learning concepts, making it easier for doctors without a software background to understand the methodologies designed.

Research Intern — Sep 2022 - Oct 2023
NASA — *District of Columbia, USA (Remote)*

- Performed regression and exploratory data analysis on satellite datasets and applied statistical inference for validation.
- Redesigned and wrangled the **IMPACT team's satellite image data** containing 4 years of sparsely collected top-down multispectral footage of North America by designing a 3-stage data pipeline with arcGIS, Rasterio, Keras, etc.
- Experimented with ResNet34, ResNet50, ResNet104 and Inceptionv3 to validate my data pipeline's effectiveness.

PUBLICATIONS

[1] Pranav Gupta, **Advith Krishnan**, et al. 2025. ViDAS: Vision-based Danger Assessment and Scoring. In Proceedings of the Fifteenth Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP '24). Association for Computing Machinery, New York, NY, USA, Article 29, 1–9. https://doi.org/10.1145/3702250.3702279

[2] Amutha A L, **Krishnan A**, et al. "Optimizing smoke detection: A hybrid U-Net Approach with advanced CNN models through satellite image segmentation" ***(Under review by TFSC Journal)***

[3] **Advith Krishnan** and Saad Yunus Sait. "Understanding Fine-grained classification with Deep Learning through Fish Species Identification" ***(Bachelor Thesis)***

ACHIEVEMENTS

The Linux Foundation | LFX Fellowship Program 2025 | `Proof of Selection` — Jun 2025 - Present

- Selected for the Linux Foundation Fellowship Program 2025 to contribute to the Open Mainframe Project under the Modernization Working Group with a $3000 stipend **(∼1% acceptance rate)**.

- The focus of my project is to build a **RAG framework** to handle retrieval from data connectors to IBM Z mainframes, IBM IMS mainframes, and modern DB systems together to perform Root Cause Analysis (RCA), trend analysis, etc, on **large-scale infrastructure systems**.

Convex Zero to One Hackathon | Global Honorable Mention | Project Demo — Mar 2024 - Mar 2024

- Received global fame for TouchGrass, along with Twitch streamers commenting about the uniqueness of our project.

PROJECTS

Deep Divergence Graph Kernel | TensorFlow, NetworkX, NumPy, SciPy | Project Link | Reference Paper Link
A refactored implementation of the Deep Divergence Graph Kernel algorithm from Google Research

Contrastive Learner | TensorFlow, PyTorch, NumPy, Keras | Project Link | Reference Paper Link
My implementation of the Contrastive Learning-based DenseNet model for Chest X-ray images.

NeuStyle | TensorFlow, PyTorch, NumPy, Keras | Project Link
An implementation of a Neural Style Transfer model, combined with a VGG-16 Preprocessing backbone.

TouchGrass | Convex, React, TypeScript, TanStack Query, Langchain | Project Link
An LLM-powered web application for habit-building and personal development.

SKILLS

AI/ML	TensorFlow, LangChain, wandb, OpenCV, Keras, PyTorch, Pinecone, ADK, n8n, CrewAI Autogen, MLFlow, Rasa, Ollama, Llama, NumPy, Matplotlib, SciPy, ONNX, Claude, GPT.
Full Stack Development	Databricks, Snowflake, PostgreSQL, Next.js, React, Tanstack Query, Express.js, REST API, GraphQL, Microservices, FastAPI, Postman, Bruno, Supabase DB, Datadog, HTTP.
Deployment	Vercel, Amazon Web Services, Google Cloud Platform, Linux, Git, Docker, Kubernetes.
Programming Languages	Python, C, C++, R, JavaScript/Node.js, TypeScript, SQL, HTML, CSS, Java, Bash.

COMMUNITY/VOLUNTEERING

Board Member — Dec 2023 - Aug 2025
Next Tech Lab — *Chennai, India (Onsite)*

- Drove strategic long-term initiatives for this esteemed and internationally recognized research lab, honored with the prestigious **QS (Quacquarelli Symonds) Silver Award for Reimagining Education**.
- Mentored and lectured 30+ members on EEG/MEG source localization, medical image segmentation, large language models, and spiking neural networks; conducted research paper discussions, hackathons, & talks.

Research Team Head & Founding Member — Dec 2023 - Mar 2025
Odyssey Lab — *Chennai, India (Onsite)*

- Combined xAI (GradCAM and Integrated Gradients) methods to evaluate generative multimodal LLMs and VLMs (GPT 3.5 Turbo, GPT 4 Turbo, GPT 4o & Gemini 1.5 Pro) in perceiving dangerous scenarios.
- Collaborated alongside 9 established vision-language researchers and led 6 interns; **submitted and presented work at ICVGIP**.
- Improvised 3 Visual Question Answering (VQA) & Temporal Action Localization pipelines (TAL) to indicate danger in CCTV footage through effective prompt engineering.