

Prashanth Vangari

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Work Experience

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- Lead AI Research Engineer, SkillTree LLC** Sept 2025 – Dec 2025
- Leading a **two-member AI team** building lightweight pose models for **Rep AI**, a real-time push-up tracker.
 - Researching **CNN-ViT hybrid architectures** for real-time **human pose estimation**.
 - Implementing and benchmarking **1D-CNN**, **2D-CNN**, and **ViT** baselines for hybrid model design.
 - Built a **pose-to-classification pipeline** achieving **95.1% accuracy** and **0.11 loss** on the **Push-Up dataset** using a **1D-CNN**.
 - Running experiments on **AWS g4dn.xlarge** with **Weights & Biases (W&B)** for tracking and hyperparameter tuning.
 - Aiming to develop a **lightweight CNN-ViT hybrid backbone** optimized for mobile deployment.
- Full-Time Research Assistant, University of North Texas** April 2025 – Dec 2025
- Researching **3D human pose estimation** from point clouds using **transformer-based architectures**.
 - Implemented and evaluated **PointTransformer** on the **ITOP dataset** (100K frames, 15 joints).
 - Exploring **spatio-temporal attention** to model frame-wise relationships in sequential point clouds.
 - Prototyping an end-to-end **point-cloud-to-3D skeleton** pipeline with attention-based feature aggregation.
 - Experimenting with **CUDA kernels** and **C++ modules** to accelerate local embeddings and k-NN queries.
 - Conducting **publication-oriented research** analyzing transformer scalability and feature expressiveness for 3D geometry.
- Associate Consultant, KPMG Global Services Private Limited** Jan 2022 – Jan 2023
- Developed **web applications** to automate **transfer, requisition, and order** workflows using **low-code** platforms.
 - Built **UI interfaces, workflow models, and databases** supporting operations across multiple countries.
 - Optimized **process flows** to reduce maintenance overhead and enhance **reporting efficiency** across global teams.
- Project Engineer, Wipro Limited** June 2019 – Jan 2022
- Developed **web applications** by migrating six **high-risk Excel-based financial tools** using **low-code**.
 - Built **frontend components, backend workflows**, and managed **deployments** through **CI/CD pipelines**.
 - **Demoed applications**, mentored 5+ juniors, and supported **requirement gathering** with clients and stakeholders.

Technical Skills

Languages & Frameworks: PyTorch, Python, C/C++, CUDA, SQL, TFLite,

Deep Learning Architectures: MLP, CNN, RNN, LSTM, PointNet, PointNet++, Point Transformers, ViT, vLLM, LLM

3D Algorithms: FPS, KNN, KD-Trees, DBSCAN, Downsampling, Statistical Outlier Removal

Libraries: NumPy, Pandas, Open3D, Matplotlib, Tensorboard, Seaborn

Developer Tools: Git, GitHub, Jupyter Notebook, VS Code, Docker, CMake, gdb, pdb, AWS

Education

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- Master of Science in Computer Science**, University of North Texas Jan 2023 – Dec 2024
- GPA: 4.0/4.0**
- Relevant Courses:** Machine Learning, Data Mining, Software Development for AI
- Bachelor of Technology in Electronics & Communication**, GCET Aug 2015 – May 2019
- Relevant Courses:** Computer Architecture, C Programming, VLSI