

A ASWANTH RAJ

SOFTWARE ENGINEERING | MACHINE LEARNING | DEEP LEARNING

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Third-year B.Tech CSE (AI & ML) student at VIT Vellore, 9.53 CGPA. Strong foundation in data structures and algorithms in C++, with deep learning work in Python on object detection, multi-object tracking and person re-identification.

EDUCATION

Vellore Institute of Technology (VIT), Vellore 2024-2028 (expected)

B.Tech in Computer Science and Engineering (Artificial Intelligence and Machine Learning) CGPA 9.53 / 10

Geethanjali Vidyalaya, Bengaluru | Class XII, CBSE: 93.8% | Class X, CBSE: 92.6% (best five)

Relevant Coursework: Data Structures and Algorithms | Design and Analysis of Algorithms | Structured and Object-Oriented Programming | Machine Learning | Probability and Statistics

RESEARCH EXPERIENCE

Research Intern | Computer Vision and Person Re-Identification May-Jul 2026
The University of Texas Rio Grande Valley | Advanced Infrastructure Materials Laboratory

- Designed and implemented **ASU-ReID**, a DINOv2-S-based model separating persistent from date-specific identity evidence for long-term UAV re-identification.
- Built the evaluation harness: source-disjoint validation, five folds, matched baselines and controlled ablations, to reduce split-driven bias and verify whether gains persisted across folds.
- Improved mAP over the matched baseline by 3.73, 3.97 and 6.53 percentage points for full-gallery, cross-date and same-date retrieval.

PROJECTS

EffiPed Python | PyTorch | ConvNeXt V2 | BoT-SORT
Multi-Camera Tracking and Person Search Platform

- Finds and follows people across four camera views, then takes one person and ranks where else they appear, so a reviewer confirms a match instead of scrubbing footage.
- Trained a single model to detect people and describe their appearance in one pass, so tracking and cross-camera matching run from the same features.
- 62.8% cross-camera Rank-1 on P-DESTRE and 74.24 IDF1 on MOT17 val-half under independently defined protocols.

Adult ASD Screening Classification Python | scikit-learn
Educational, Non-Clinical ML Application

- Automated fold-local preprocessing and 5x4 nested cross-validation across Logistic Regression, Random Forest, Extra Trees, RBF SVC, and an out-of-fold MLP stack.
- Selected Extra Trees at F1 0.695 +/- 0.066 and 0.924 held-out ROC-AUC, exported the fitted forest to JSON for browser inference, matching scikit-learn within 1e-12.

TECHNICAL SKILLS

Languages	C++, Python
Engineering	FastAPI, REST APIs, WebSockets, Git
Testing / CI	pytest, unit testing, GitHub Actions, CI/CD
ML/Data	PyTorch, torchvision, scikit-learn, NumPy, pandas, Matplotlib
Deep Learning & CV	CNNs, Transformers, metric learning, transfer learning, object detection, multi-object tracking, person re-identification
Certifications	Deep Learning Specialization (DeepLearning.AI, five courses) PyTorch for Deep Learning (Zero To Mastery, 52 hours)

ACHIEVEMENTS & AWARDS

Third Prize | Student Innovation Project Contest 2026, SCOPE, VIT Vellore Apr 2026

Merit Scholarship | VIT Vellore, consecutive recipient for academic excellence 2024-25, 2025-26