

# Akash Sivakumar

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🌐 <https://github.com/Akash080799>    🔗 <https://akash080799.github.io/Personal-Portfolio/>

## EDUCATION

### Amrita Vishwa Vidyapeetham

Bachelor of Technology in Electronics and Communication Engineering (CGPA: 8.0 / 10.0)

August 2021

Coimbatore, TN

## EXPERIENCE

### Cognizant Technology Solutions

Aug 2021 – Present

Software Engineer, Associate

Chennai, TN

- Spearheaded the development of an enterprise-level application built on Pega's Customer Service framework to efficiently handle incoming user form submission requests from a subsidiary web application of the client organization.
- Involved in developing workflows and sub-flows to enhance an existing feature of a healthcare client's pharmacy application, which is a part of an event-driven architecture.
- Transformed a client's existing CSR application by utilizing various Pega rules, including Sections, Data Transforms, Activities, Decision Tables, Validation Rules, Report Definitions, Data Pages, Connect-REST API integrations, and Service Level Agreements.

### Combat Vehicles Research and Development Establishment (CVRDE), DRDO

May 2019

Research Intern

Chennai, TN

- Gained knowledge in using tools like LiDAR sensors, which are specifically used in defense applications.
- Implemented available image processing techniques on the point cloud data of various terrains collected from LiDAR sensors and cameras mounted on military tanks, attempting to predict the terrain type through statistical analysis. Developed a MATLAB GUI-based application to demonstrate the statistical features of the data.

## PROJECTS

### VegNet - A CNN-Based Image Classification System | Python, Keras, Tensorflow

- Developed a CNN-based image classification system to accurately classify various vegetables and market scenes, improving automation in agricultural processes. Implemented and optimized multiple model architectures, including custom CNN, VGG16, ResNet50, and InceptionV3, to improve classification accuracy.
- Achieved high Testing accuracy of 90.6% through extensive hyperparameter tuning, early stopping, and model checkpointing, preventing overfitting and optimizing the model for real-world applications.

### OTT - Movie Recommendation System | Python, Pega PRPC, StreamLit, Flask, Rest-API, Docker, AWS

- Developed an end-to-end movie recommendation system incorporating collaborative filtering and content-based filtering algorithms to deliver personalized suggestions to users based on historical data and interactions.
- Built a CI/CD pipeline using GitHub actions and Docker, reducing deployment time by 40% and ensuring consistent and reliable deployments to production.
- Developed a Pega platform application to deliver movie suggestions by transforming the built recommender system into a Web API.

### Saline Solution Based Miniaturized Low-Frequency Dipole for UAV based River Monitoring Systems

Ansyz-HFSS, MATLAB. | Link: <https://ieeexplore.ieee.org/document/9708266>

- Developed a novel minimization technique to incorporate saline solution as a core material with low frequency wire antenna's to efficiently reduce their overall electrical length 47%. This resulted in a return loss of around -50dB and an overall bandwidth enhancement of 53%.

## TECHNICAL SKILLS

**Programming Languages:** Python (Numpy, Pandas, Seaborn, Scikit-learn, Keras, Tensorflow), Java, MATLAB

**Web Technologies and Frameworks:** Pega BPM 8.6 (Dev-Studio, Admin-Studio), Pega Customer-Service Framework, Flask, StreamLit, HTML5, CSS3

**Machine Learning Tools/ Techniques:** Hypothesis testing, EDA, Supervised learning, Un-supervised learning, Neural networks

**Database:** SQL (MySQL, Oracle DB2), Google Big Query

**Simulation and Data visualization Tools:** Ansys HFSS, Tableau

**Project Management and Additional Tools:** Jira, GitHub (basics), LaTeX