# Joseva A

Civil Engineering Undergraduate | AI & BIM Enthusiast | Sustainable Design Innovator

Tiruchirappalli, Tamil Nadu, India | 126001020@sastra.ac.in | +91 8015164110

linkedin.com/in/joseva2748 | github.com/Jovix27

## Professional Summary

**Innovative Civil Engineering undergraduate** specializing in **Building Information Modeling (BIM)**, **AI applications in construction**, and **sustainable infrastructure development**. Skilled in integrating **Revit, AutoCAD, STAAD Pro, and Python-based modeling tools** to enhance project efficiency and design accuracy. Experienced in **climate monitoring, transportation engineering research**, and the development of **energy-efficient and smart building systems**. Passionate about leveraging emerging technologies to drive **digital transformation and sustainability** in modern civil engineering projects.

## Education

**Bachelor of Technology in Civil Engineering** 2022 – 2026

SASTRA Deemed University, Thanjavur, India

- **CGPA:** 7.10 (Till 6th Semester)
- **Focus Areas:** Building Information Modeling (BIM), Sustainable Infrastructure Design, AI-enabled Construction Planning, Transportation Engineering
- **Key Coursework:** Architecture, Energy Efficient Design, Construction Technology, Urban Infrastructure Systems

## Professional Experience

**Intern** June 2025 – July 2025

Larsen & Toubro (L&T), Chennai

- Assisted in metro construction project execution (Phase 2 Corridor 3) covering Chetpet, Royapettah, Thiruvanmiyur, and Vanagaram casting yard.
- Supported **tunneling operations analysis**, **Tunnel Boring Machine (TBM) monitoring**, and **site management coordination**, ensuring adherence to safety and quality standards.
- Collaborated with L&T's GeoTech division to study applications of **GeoFreq** software for real-time geotechnical monitoring and digital infrastructure safety.
- Conducted a short technical study analyzing how GeoFreq digitizes monitoring, threshold alerting, and GIS-enabled visualization.
- Conceptualized **ClimaNEX AI**, an AI-powered hyper-local weather forecasting platform for the Thanjavur region using Random Forest, LSTM, and Transformer models.
- Presented final report to L&T mentors, showcasing project methodology, AI/ML integration, system architecture, and dashboard design.
- Recognized for initiative, technical depth, and ability to bridge field engineering, geotechnical monitoring, and AI-driven innovation.

**Research Intern** May 2024 – Jun 2024

National Institute of Technology (NIT), Trichy, India

- Conducted a **Driver Behaviour Survey** across the Trichy region with 200+ participants using digital survey platforms.
- Performed **statistical analysis using IBM SPSS** to identify transportation patterns and behavioral insights.
- Developed **data management frameworks** in Google Forms with response validation protocols, improving data quality by 20%.
- Generated actionable insights for transportation infrastructure and traffic management optimization.

## Technical Projects

**Precipitable Water Vapor Validation System** 2024 – 2025

- Built and validated **Bias Correction Models (Random Forest, LSTM)** using Python, NumPy, and Scikit-learn,

improving MODIS satellite data accuracy by 18% versus NOAA reference datasets.

- Engineered a Python-based pipeline using NetCDF4 for processing large-scale satellite data over Thanjavur region.
- Enhanced reliability of atmospheric water vapor monitoring applications for climate-based research.

**Energy Efficient Building Design** 5th Semester

- Converted conventional residential designs into BIM-based green building models using **Autodesk Revit**.
- Achieved **30% reduction in energy consumption** through passive architecture principles and sustainable design strategies.
- Conducted detailed performance modeling including thermal efficiency and building envelope optimization.

**Sustainable Campus Hotspot Design** 6th Semester

- Designed eco-friendly shaded rest zones utilizing locally sourced materials for SASTRA Campus.
- Reduced construction waste by 50% by reusing existing seating infrastructure and local resources.
- Proposed scalable, replicable framework for sustainable campus infrastructure with minimal environmental footprint.

## Skills & Technical Proficiencies

**Core Civil Engineering Tools:** AutoCAD, Revit, STAAD Pro, EPANET, QGIS, Plaxis 2D

**Building Information Modeling (BIM):** Revit, BIM 360, IFC Standards, Green Building Studio

**Programming & AI:** Python, Random Forest, LSTM, Generative AI

**Project Management & Analysis:** MS Project, IBM SPSS, GIS, Data Visualization, Statistical Analysis, Satellite Data Processing

**Core Competencies:** Sustainable Design, Energy Efficiency, Construction Technology Innovation, Transportation Engineering, Infrastructure Planning

## Leadership & Activities

- **Chairperson** – IGBC Student Chapter, SASTRA University (2025)
- **Core Executive Member** – Civil Engineering Association (CEA), SASTRA University (2025)
- **Technical Head** – Utsav TechFest, SASTRA University (2025)

## Certifications & Professional Development

- **IGBC Accredited Professional – Associate (IGBC-AP)** – Indian Green Building Council (2025)
- **One Week Building Information Modeling (BIM) Workshop** – SASTRA University (2024)
- **Revit Workshop** – L&T Construction Certified, SASTRA University (2023)
- **3D Printing Technology in Construction** – SASTRA University (2024)
- **Advances in Transportation Geotechnics** – IGS Thanjavur, SASTRA University (2025)

## Key Achievements & Recognition

- **Smart India Hackathon (2024, 2025):** Selected finalist at internal stage for AI-based civil innovation challenge among top 5 teams.
- **Daksh AI Hackathon (2025):** Finalist for sustainable construction design using Machine Learning and Revit integration.