

Manson Saju

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PROFESSIONAL SUMMARY

Full-Stack Developer and Research Enthusiast who can debug both code and meetings. Experienced in building desktop and web applications, data-driven research projects, and coordinating teams. Proven strengths in communication, problem-solving, and project management.

EXPERIENCE

Computer Science Trainee/Apprentice

Aug 2024 – Aug 2025

Centre for Development of Advanced Computing (C-DAC), Thiruvananthapuram, Kerala

- Developed **AGLPS (Advanced Glacier Lake Profiling Software)**, a full-stack desktop application for analyzing glacier lakes using DEM and bathymetric data.
- Built a **PyQt5 GUI** integrated with Python backend and MongoDB (GridFS).
- Implemented 3D visualization, contour profiling, and area/volume analysis using **NumPy, Pandas, SciPy, pyproj, Plotly, Folium, Matplotlib, Rasterio**.
- Enhanced **front-end responsiveness**, optimized backend performance, and packaged the application for deployment.
- Coordinated weekly meetings, tracked project updates, and supported Agile workflows using **OpenProject**.
- Delivered project presentations to senior officials and coordinated a hackathon event.
- Researched and contributed to a **flood inundation model** using 2D Shallow Water Equations with PINNs.
- Explored **quantum computing fundamentals, algorithms, and platforms**.

EDUCATION

B.Tech in Computer Science and Engineering, CGPA: 6.86

2023

APJ Abdul Kalam Technological University, Kerala

Higher Secondary in Biological Science, 77%

2019

TKM HSS, Kollam

SKILLS

- **Languages:** Python, JavaScript
- **Frameworks:** Django, React.js, Node.js
- **Databases:** MySQL, MongoDB
- **Web:** HTML, CSS, Bootstrap
- **Tools:** GitHub, Figma, OpenProject
- **Others:** PyQt5, Redis, Basic Linux

INTERNSHIP

Full-Stack Developer (Python Django & React.js)

Aug 2023 – Feb 2024

- Contributed to projects under guidance from senior developers and trainers in an **Agile environment**.
- Strengthened skills in **SDLC, teamwork, self-learning, communication and presentation**.

PROJECTS

AI Therapist (Personal Companion & Stress Reliever)

- Developed an **AI-driven chatbot** using **Ollama (Phi-4 Mini)** for empathetic and supportive conversations.
- Implemented **sentiment analysis** and **mood tracking** with daily summaries stored in **MongoDB**.
- Designed a memory system to learn user behavior and predict next-day moods, habits, and tasks.
- Integrated motivational story generation and personalized activity suggestions.

AGLPS (Advanced Glacier Lake Profiling Software)

- Designed a **PyQt**-based desktop application for analyzing and visualizing glacier lake data.
- Integrated **DEM, bathymetric, and meteorological data** for flood risk modeling using Python libraries (NumPy, Pandas, SciPy, Rasterio, Plotly).

OLX-Clone (Classifieds Marketplace)

- Created a **MERN**-based platform with authentication, posting/editing ads, and category-based search.
- Enabled real-time chat between buyers and sellers using **Socket.IO** and **Redis**.
- Built an admin panel for content moderation and user management.

Bookyard (E-Commerce Platform)

- Built a **Django**-based book sales platform with secure authentication and order management.
- Implemented a user-friendly interface for browsing, filtering, and purchasing books.

Workwise (Employee Management System)

- Developed CRUD operations and RESTful APIs using the **Django MVT** architecture.
- Integrated authentication and role-based access control.