Bhumika Sahu

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EDUCATION

Bhilai Institute of Technology, Durg   **Durg, CG**
Computer Science and Engineering   *Graduation Date: Jul 2025*

PROJECT EXPERIENCE

MultiChain Gas Tracker API (Live) - (GitHub Repo)
- Developed production-grade API monitoring gas fees across 7+ EVM chains (Ethereum, Base, zkSync, etc)
- Implemented EIP-1559 fee estimation, historical analytics, and transaction simulation
- Solved Python 3.9 dependency conflicts for Render deployment
- **Features:** Rate-limiting (60 RPM), caching (TTLCache), health checks, L2 fee breakdowns
- **Tools:** Python, FastAPI, Web3.py, SQLite, Render

Blockchain Crowdfunding Platform(FundFlow) - (GitHub Repo)
- *Decentralized Web3 Application*
- *Group Project*
   Role: *Smart Contract Developer*
- **Key Contributions:**
   - Designed & deployed **secure smart contracts** in Solidity to automate campaign lifecycle (creation, funding, withdrawals), eliminating intermediaries.
   - Implemented **factory contract pattern** (**Crowdfactory.sol**) to enable gas-efficient deployment of individual campaign instances.
   - Ensured **on-chain transparency** with event logging for all transactions (contributions, withdrawals), auditable via Etherscan.
   - Collaborated with the frontend team to integrate contracts via **Ethers.js**, enabling seamless wallet (MetaMask) interactions.
   - **Tools:** Solidity, Hardhat, Ethers.js, MetaMask

Hand Sign Translation: ASL Recognition System - (GitHub Repo)
- Developed a **real-time ASL recognition system** achieving 92% accuracy across 26 alphabet gestures (A-Z) and 8 common phrases like Thank you, Sorry, How are you, etc.
- Engineered **frame capture interface** for live video processing, reducing latency to <200ms per prediction
- Trained a **custom CNN model** using MediaPipe hand landmarks as input features, optimized for edge deployment
- Implemented **data augmentation pipeline** to improve robustness against lighting/angle variations
- **Tools:** Python, OpenCV, MediaPipe, Keras, CVzone

TECHNICAL SKILLS

Languages: Python, Solidity, SQL

Web3Stack: Web3.py, Hardhat, Ethers.js

DevOps: Render, Docker

ML/Computer Vision: OpenCV, Keras, MediaPipe

Web Scraping: Selenium, Scrapy, Puppeteer

CERTIFICATES

- Shell Script for Beginners: Credentials
- Learning Linux Basics Course & Labs: Credentials
- Web Scraping in Python: Credentials