

Professional Summary

Versatile Software Engineer with 5+ years of experience delivering scalable solutions across embedded systems, research, and full-stack development. Skilled in Python, C++, AI/ML frameworks, and cybersecurity with expertise in IoT protocols like MQTT and OCPP. Proven ability to transform complex challenges into scalable solutions that drive operational efficiency

Skills

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| Languages | Python, C, C++, HTML, CSS, JavaScript, SQL |
| Frameworks | Flask, FastAPI, React.js, Node.js, Tailwind CSS, Express.js, electronJS |
| Tools | AWS (S3, EC2, Lambda, Amplify, Dynamo DB), Docker, MongoDB, MySQL, JIRA, Github |
| Specializations | IoT (Raspberry Pi, Arduino, NRF Nordic), Mobile App Development (React Native), System Design (Microservices, Event-Driven Architecture), Testing (Pytest), Machine Learning (Scikit-learn, Pandas), LLM (OpenAI, LangChain), Wireframes, Git |

Technical Experience

Research Assistant Nov 2023 — Present
Durham College, Artificial Intelligence Hub. Toronto, Canada

- Developed RAG-powered avatar chatbot with voice and text interaction using LangChain, collaborating with MRC Studio on 3D avatar integration to create comprehensive conversational AI solution.
- Developed frontend for green tech company's ML platform within 2-month timeline based on Figma designs, delivering all features through cross-team collaboration and achieving high client satisfaction
- Contributed to M-Body open-source research project funded by NSERC, developing pipeline automation scripts and adapting ML models for dataset compatibility; collaborated with global researchers to validate generated datasets for generative character animation technologies

Software Engineer Feb 2022 — Aug 2023
Apar Innosys Pte. Ltd. Chennai, India

- Developed unified full-stack web application for seamless integration with internal software tools; designed end-to-end solution with CTO to cut down costs on proprietary software while enabling flexible feature customization for future development
- Modernized legacy application by upgrading framework, fixing bugs, and updating UI while migrating sensor data collection system; improved page load times and reduced user-reported issues through optimized queries and implementation of new client-requested features
- Automated video processing system for banking clients using Python, reducing processing time from 3+ weeks to 2-3 days and team requirements from 40+ to 5 people; developed automated workflow with AWS S3 integration and secure file sharing through cron job scheduling

Research Engineer Nov 2020 — Jan 2022
Coovum Smart Systems and Services Pvt. Ltd. Chennai, India

- Collaborated with a Power distribution company to develop predictive maintenance solution for transformer replacement planning, analyzing SCADA sensor data through ML models to forecast equipment performance degradation and optimize maintenance scheduling
- Collaborated with private and government power electronics companies to develop OCPP-certified EV charging stations within 2-4 months, creating modern responsive HMI interface using Electron.js through cross-sector R&D partnership

Embedded Engineer Aug 2018 — Oct 2020
Coovum Smart Systems and Services Pvt. Ltd. Chennai, India

- Developed IoT gateway solution tracking 25+ delivery vehicles and collecting sensor data; increased operational efficiency by eliminating driver delays, automating equipment control, and streamlining measurements
- Developed integrated Bluetooth solution with interactive cycling features for 20+ simultaneous users, significantly enhancing gym members engagement with positive feedback

Education

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| Post-Graduation Certification in Cybersecurity, Durham College | April 2025 |
| Post-Graduation Certification in Artificial Intelligence Design and Implementation, Durham College | April 2024 |
| Bachelor of Engineering in Electrical, Electronics and Communications, Anna University | Aug 2018 |