

Punit Daga

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Skills

Languages	English (Native), Russian (Proficient), Hindi (Proficient)
Programming Languages	C, C++, Assembly, VHDL, Python, PowerShell, JavaScript (Node.js/ES6+), TypeScript, HTML5, CSS3, Bash/Shell
Test Automation & QA	Playwright, Appium (iOS & Android), End-to-End (E2E) Testing, Page Object Model (POM), Cross-Browser Testing, Mobile Test Automation, API Contract Testing, Regression & Smoke Testing, Anti-Flake Engineering, Root Cause Analysis (RCA)
Embedded Systems & RTOS	RTOS development, real-time systems design, memory management, driver development
Cloud & DevOps	Firebase, Azure, Azure DevOps, Google Cloud Platform (GCP), AWS (Amazon Web Services), Jenkins, Docker, GitHub Actions, CI/CD Pipelines, Network Diagnostics (BGP/Traceroute), OpenVPN
AI & Agentic Testing	Agentic QA Evaluation, Claude (Projects), GPT-4, Gemini, LLM Benchmarking, Prompt Engineering
Databases & Storage	PostgreSQL, SQL, NoSQL (FirebaseDB, MongoDB)
Security & Cryptography	OAuth, Network Security, Data Encryption, Application Security Controls, Post Quantum Encryption (PQE), Zero Knowledge Proofs (ZKPs)
Tools & Technologies	Git, Docker, JSON, VS Code, Linux, Jira, Linear, Chrome DevTools, Lucidchart, Monaco Editor, Notion, Tampermonkey

Education

University of Ottawa	Ottawa, Canada
BASc in Computer Engineering with a focus on hardware design and networking.	September 2018 - May 2024
Embedded Systems & RTOS: Developed expertise in real-time operating systems (RTOS) development, real-time systems design, concurrency and synchronization, memory management, and device driver development through rigorous coursework and hands-on projects. Hardware Design: Acquired skills in digital computer design, CPU design & control, memory unit design, FPGA design, VHDL/HDL design, and embedded systems, providing a solid foundation for hardware-level considerations. Software Development: Built a strong foundation in software engineering principles, object-oriented programming (OOP), data structures, concurrency and synchronization, memory management, and the software development lifecycle (SDLC) to create efficient and scalable software solutions. Networking: Gained comprehensive knowledge of network protocols (TCP/IP, UDP), IPv4/IPv6 addressing, network security protocols, routing algorithms, communication protocols (UART/RS232, RS485, I2C, SPI, BLE), essential for developing and maintaining secure and robust networked systems. Security & Cryptography: Developed a deep understanding of network security protocols, encryption algorithms, and data protection mechanisms through coursework and practical projects.	

Experience

Work QA Wolf	Remote
Software Development Engineer in Test (SDET) / QAE II	August 2024 - September 2026
- Promoted to Level II in 11 months; architected modular Page Object Model (POM) class hierarchies and design patterns, leading an engineering-wide migration from procedural scripts to maintainable OOP codebases. - Engineered developer tooling and internal utilities, including a Monaco-based IDE plugin (qawolf-ide-themer) and an automated media-export service to reliably process and serialize client video artifacts under strict SLAs. - Diagnosed and resolved complex distributed systems and network bottlenecks, isolating upstream BGP routing failures on test runners via traceroute/RPKI analysis and optimizing WebRTC stream latency via selective OpenVPN split-tunneling. - Optimized runtime performance and determinism across 1,500+ tests in Playwright and Appium (JavaScript/TypeScript), eliminating timeout-heavy polling loops in favor of deterministic DOM assertions and native Android OS event listeners. - Integrated scalable pre-merge validation pipelines across GitHub Actions and Azure DevOps; developed LLM orchestration workflows (Claude, GPT-4, Gemini) that cut automated workflow generation from 3 days to 15 minutes.	
Project ScrapYard - Automated Trash Sorting System	Ottawa, Canada
Fullstack Developer	September 2022 - April 2023
- Created a sustainability-focused garbage and recycling sorter prototype for use in public spaces - Developed web app, Express.js server, PostgreSQL database, OAuth authentication, React Leaflet maps, and integrated Google Cloud (GCP) APIs/Firebase - Contributed to the development of AI-powered computer vision for object recognition and automated control systems for sorting	

Project | IDP Solar Grid Simulator

Ottawa, Canada

Project Lead

January 2023 - April 2023

- Developed cyclic scheduler on **BeagleBone Black** using **SYS/BIOS** for real-time task management
- Implemented **MVC** pattern for terminal-based user interface on BeagleBone Black
- Managed continuous data acquisition from **SOURCE** and **LOAD** ports with BeagleBone Black's **ADC**
- Conducted **RMS voltage**, current, and power signal analysis on BeagleBone Black
- Integrated **SPI**, **ADC**, **GPIO**, and **UART** interfaces on **AM335x microcontroller**
- Utilized **SYS/BIOS** for **multi-threading** and task execution on BeagleBone Black
- Conducted detailed functional and performance **analysis** for **system optimization**

Work | Software Developer

Toronto, Canada

Lonehaven

January 2022 - December 2022

- Developed **React.js** marketing websites and **Shopify** e-commerce stores for clients, serving 20,000+ customers
- Utilized **Shopify API**, **React.js**, **Angular**, and **AWS** for deployment and management
- Led the development of the company website and **managed** a team of 5 student developers on various projects for 6 months

Project | CEG3155 UART Traffic Light Controller

Ottawa, Canada

Hardware Designer

September 2021 - December 2021

- Developed a **VHDL**-based **traffic light control system** using **Finite State Machine (FSM)** with one-hot state assignment and Sunggu Lee class equivalence method for state minimization
- Assembled a **prototype** for **CMOS** to **RS-232** signal conversion using a breadboard, capacitors, and MAX232 dual transmitter/receiver
- Created a **micro-controller** simulated FSM interfacing with **UART** in structural VHDL
- Implemented **UART's** Transmit and Receive **Shift Registers** using 8-bit **PIPO** and **SIPO** shift registers with D Flip-Flops
- Designed a **UART Transmitter** with TSR, a 16-bit counter, and D Flip-Flops, enabling **ASCII character transmission** to an Altera DE2-115 **FPGA** via the MAX232 Tx connection

Work | Software Engineer

Ottawa, Canada

Ottawa Department of Medicine

August 2020 - April 2021

- Collaborated with Microsoft Engineers to develop a **React.js web application** with a questionnaire and **PDF rendering** functionality for internal use
- Built the UI using MUI and implemented PDF rendering using react-pdf
- Deployed and managed the application on a **Node.js server** within the **Azure** cloud environment
- Utilized **Azure DevOps** for project management and **CI/CD pipelines**

Work | Network Technician

Ottawa, Canada

Smart Living Properties

July 2019 - May 2020

- Provided on-site **network troubleshooting** and support for home **internet** services
- Resolved **security incidents** (Gozi spyware infections) on customer networks
- Deployed and configured enterprise-grade **network solutions** using **Cisco Meraki** equipment

Project | Emergency Call Bell System

Ottawa, Canada

Fullstack Developer

January 2020 - April 2020

- Implemented **back-end services** for a **real-time** emergency response system, emphasizing **network communication** and **data processing**
- Developed and integrated **networking features** for fall detection and automated emergency response, ensuring system **reliability** and **efficiency**
- Collaborated in a multidisciplinary team, contributing expertise in **networking**, system analysis, and **embedded systems programming**