

Punit Daga

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Skills

Languages	JavaScript, Typescript, HTML/CSS, Java, Kotlin, Python, C++, C, Assembly, VHDL
Frameworks & Libraries	React.js, Node.js, Angular, MUI (Material, Styles, Icons), React Leaflet, React Router
Other tools	Firebase, Azure, Azure DevOps, PostgreSQL, SQL, FirebaseDB, JSON, Google Cloud (OAuth, Vision), Shopify API
General Skills	Linux, Git, Docker, Google Cloud Platform, Azure, Azure Devops, VS Code, Fitbit API, Github Pages, Cloudflare Pages

Education

University of Ottawa	Ottawa, Canada
BASc in Computer Engineering with a focus on hardware design and networking.	September 2018 - May 2024
<ul style="list-style-type: none">Networking: IPv4/IPv6 Addressing, Network Design & Analysis, Data Link Layer Protocols, Error Detection & Correction, Network Security Protocols, Quality of Service (QoS), Flow & Congestion Control, TCP/UDP Protocols, LAN/WLAN, Routing Algorithms, Packet SwitchingHardware Design: Digital Computer Design, CPU Design & Control, Memory Unit Design, FPGA Design, VHDL/HDL Design, Embedded Systems, Advanced Sequential Logic, Multithreading, ARM Assembly, GPU Hardware DesignOS & Embedded Systems: RTOS Development, Real-Time Systems Design, Concurrency and Synchronization, CPU Scheduling, Memory Management, Fault Tolerance, Device Driver Development, Embedded Systems Hardware-Software CodesignSoftware Development: Object-Oriented Programming (OOP), Data Structures, Complexity Analysis, Concurrency and Synchronization, Memory Management, Software Development Lifecycle, Requirements and Design, UML for Object-Oriented Analysis, Client-Server Architecture, Security Mechanisms, Performance Tuning, Middleware Design, Distributed Systems, Protocols, Formal Languages	

Work Experience

Software Developer	Toronto, Canada
Lonehaven	January 2022 - December 2022
<ul style="list-style-type: none">Created React.js marketing website and Shopify stores for clients using mui, Shopify API, React.js, Angular, and AWS Servers to serve 20,000 customersOverlooked the creation of company website; managed 5 student developers overlooking projects for 6 months	
Software Engineer	Ottawa, Canada
Ottawa Department of Medicine	August 2020 - April 2021
<ul style="list-style-type: none">Collaborated with Microsoft Engineers to create a webapp using React.js for questionnaire and PDF renderer for internal usageCreated UI using mui, used react-pdf to render PDF, running on a Node.js server on AzureOther tools used: Azure Devops	
Network Technician	Ottawa, Canada
Smart Living Properties	July 2019 - May 2020
<ul style="list-style-type: none">Provided on-location home internet solutions and resolved Gozi spyware infections on multiple networksImplemented enterprise level network solutions using Cisco Meraki switchesAssisted in the troubleshooting and maintenance of network infrastructureSkills: Network Security, Cisco Meraki, Network troubleshooting, Customer service, Technical support	

Projects

Blockchain Project	Ottawa, Canada
pewnit.com	May 2024 - Present
<ul style="list-style-type: none">Explored blockchain technology for a personal project, focused on enhancing authentication and security in a centralized environment	
ScrapYard - Automated Trash Sorting System	Ottawa, Canada
University of Ottawa	September 2022 - April 2023
<ul style="list-style-type: none">Created a sustainability focused garbage and recycling sorter prototype for use in public spacesCreated the web app, Express.js server, PostgreSQL server, OAuth, React Leaflet, and managed Google API/FirebaseContributed to development of AI Vision and control of electronics	
CEG3155 UART Traffic Light Controller	Ottawa, Canada
University of Ottawa	September 2021 - December 2021
<ul style="list-style-type: none">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 minimizationAssembled a prototype for CMOS to RS-232 signal conversion using a breadboard, capacitors, and MAX232 dual transmitter/receiverCreated a micro-controller simulated FSM interfacing with UART in structural VHDLImplemented UART's Transmit and Receive Shift Registers using 8-bit PIPO and SIPO shift registers with D Flip-FlopsDesigned 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	
Emergency Call Bell System	Ottawa, Canada
University of Ottawa	January 2020 - April 2020
<ul style="list-style-type: none">Implemented back-end services for a real-time emergency response system, with a focus on networking and real-time data processingDeveloped and integrated networking features for fall detection and automated emergency response, ensuring system reliability and efficiencyWorked in a multidisciplinary team, focusing on networking, system analysis, and embedded system programmingTechnical Skills: Networking, Real-Time Systems, Java, Fitbit API Development, Embedded Programming	