

# Nishanthan Ravichandran

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## SUMMARY

Passionate Software Engineer with 3+ years of experience in designing, developing android and web applications. Proven expertise in optimizing payment gateways for high-volume systems used by **80 Million+ USA users**, and creating scalable embedded systems. Skilled in Agile development methodologies and adept at solving complex problems in multi-threaded programming, system-level optimization, and real-time OS design.

## EDUCATION

<b>Master of Applied Computing</b> University of Windsor, Windsor, ON	Sept 2023 - Dec 2024 3.7/4
<b>Bachelor of Technology (Computer Science and Engineering)</b> Lovely Professional University, India	July 2019 - June 2023 3.6/4

## TECHNICAL SKILLS

**Programming:** C++, Java, Python, Kotlin, C, C#, SQL, Shell Scripting

**DevOps/Cloud:** AWS, GCP, Azure, Docker, Bitbucket, Git, GitHub, Bamboo, CI/CD, Jenkins, Kubernetes

**Networking:** IPs, Ethernet, TCP/IP, DNS, NAT, Wireshark

**Software Methodologies:** Scrum, Agile, Waterfall, Lean Six Sigma, SDLC, Object-oriented Design

**Tools:** Android Studio, JUnit, XUnit, Mockito, VS Code, Eclipse, Linux, Maven, Gradle, Postman, JIRA

## PROFESSIONAL EXPERIENCE

<b>Ingenico Canada, Toronto, Canada: Android Developer</b>	Sept 2024 – Present
<ul style="list-style-type: none"><li>Collaborated with cross-functional teams in <b>SAFe Agile</b> environment and built <b>APIs, headless services</b> for primary payment app using <b>Kotlin</b>, contributing to a 60% increase in retail system integration.</li><li>Developed <b>AIDL interfaces</b> to enable seamless inter-process communication between the payment application and external components like <b>ECR</b>, enhancing modularity and system performance.</li><li>Implemented <b>logging</b> framework for <b>adapter systems</b> and developed common <b>library model</b> for all applications, enabling seamless integration of shared <b>data objects</b> by leveraging <b>Test-Driven Development (TDD)</b>.</li><li>Created <b>JUnit test cases</b>, performed <b>regression testing</b>, improving product reliability reducing bugs.</li><li>Created software documentation and <b>Confluence</b> templates, boosting workflow efficiency by 20%.</li></ul>	
<b>Sears Holdings Corporation, Pune, India: Software Developer</b>	June 2022 – June 2023
<ul style="list-style-type: none"><li>Developed <b>50+ RESTful APIs</b> and implemented <b>JSON-based</b> event-driven mechanisms using <b>Java</b> to optimize data flow and reduce response times in <b>microservices</b> applications.</li><li>Deployed <b>containerized microservices</b> with <b>Docker</b> and <b>Kubernetes</b>, enhancing scalability and streamlined deployment across environments.</li><li>Enhanced Sears' payment gateway by building <b>AWS WebSocket API</b>, and temporarily stored payment status in <b>Redis</b> to schedule periodic payment status checks using <b>dequeue listener</b></li><li>Achieved a <b>60% reduction</b> in client <b>polling</b> by enabling full-duplex communication with WebSocket, <b>minimizing</b> server <b>load</b> and reduced unnecessary requests and log generation</li><li>Developed unit tests using <b>JUnit</b> with <b>Mockito</b> to mock external service dependencies, achieving over 90% code coverage and enabling isolated testing for faster execution, ensuring consistent updates in an <b>Agile</b> setup.</li><li>Automated security processes by <b>scripting</b> token generation for <b>API</b>, managed batch jobs on <b>UNIX</b> servers using Shell scripting. Recognized by <b>Principal Architect</b> and <b>Business Unit Head</b> for <b>exceptional contributions</b></li></ul>	
<b>Allsoft Solutions, Mohali, India: Android Developer</b>	June 2021 – Aug 2021
<ul style="list-style-type: none"><li>Led the <b>complete</b> software development <b>lifecycle</b> of an Android media player using <b>Java, Kotlin</b> managing builds with <b>Gradle</b> and overseeing a team of 4.</li><li>Earned best project recognition for amazing <b>XML-based UI</b> optimized for smooth playback and intuitive navigation of <b>500+ files</b>.</li><li>Utilized Google Cloud Platform (<b>GCP</b>) to deploy <b>backend services</b> for the Android app, enhancing <b>scalability</b> and <b>optimizing</b> media data retrieval for smooth playback of 500+ files.</li></ul>	

## PROJECTS

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### Brainy Bits AI

[Github](#)

Skills: Flask | Python | OpenCV | TensorFlow | Keras | AWS RDS | MySQL | Image Processing

- Built an **AI application** to monitor classroom activities, capturing students' head poses, emotions, and eye movements **real-time data** from classroom **sensors**, with **97% accuracy**, generating detailed attentiveness reports.
- Created robust **technical documentation**, outlining data handling protocols and standards for ease of integration.
- Utilized **Flask** web framework, **OpenCV** for image processing, **TensorFlow/Keras** for model development, **MySQL** hosted in **AWS RDS** for efficient data storage, implementing optimized queries and indexing for faster data retrieval and analysis.

### Network Anomaly Detection and Security Insights

Skills: C | Wireshark | Shell scripting | Ethernet | Networking | Protocols

- Conducted in-depth analysis of **TCP/IP protocols**, **DNS resolution** using **Wireshark** to identify and troubleshoot anomalies in network performance and security.
- Implemented and optimized Network Address Translation (**NAT**) setups to ensure seamless connectivity and efficient **resource allocation** across **distributed systems**.
- Utilized **Wireshark** for **packet tracing** and **debugging**, enhancing the detection and resolution of network vulnerabilities in real-time communication environments.

### UNIX Shell+

[Github](#)

Skills: C | Networking | System programming | Unix/Linux | Sockets | Load Balancing | Bash Scripting | IoT Protocols

- Built a **client-server application** with **load balancing**, dynamically redistributing client connections using multi-threading, handled memory management to optimize resource usage when **server load exceeds 70%**
- Designed data processing protocols using FTP and HTTP, optimizing data transmission efficiency by 35%.

### Analysis of Weather data

[Github](#)

Skills: Hadoop HDFS | Python Dash | Random Forest | Algorithms | Hive | NLP | XGBoost | HTML5 | CSS3 | JavaScript

- Built a **machine learning pipeline** using **Hadoop** and **Random Forest algorithms** to predict suitable crops with **96.59%** accuracy based on weather and nutritional data.
- Designed an interactive dashboard using **Python Dash** for visual insights to aid farmers in pre-harvest planning.

### Reverb Media Player

[Github](#)

Skills: Proficient in Android Application Development | XML | Java | Strong presentation skills

- Developed an android application capable of managing both internal audio and video data using **Java**, **XML**, providing users with an engaging user interface. Integrated **Chromecast** functionality and with various **gestures**

### n2n Movies

[Website](#) | [Github](#)

Skills: Front end web development HTML | CSS | Javascript and JSON and Animations to enhance UI

- Developed an online movie ticket booking system with a user-friendly interface to streamline the booking process. Focused on front-end development to create an attractive UI and design for enhanced user experience.

## PUBLICATIONS

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- WebSocket technology AWS WebSocket API and SockJS Library, [LinkedIn](#)
- An Empirical Study on Architecture and Efficiency of Dalvik VM and Android Runtime (ART), [IJRASET](#)

## CERTIFICATIONS

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- C#: from Beginner to Advanced, LinkedIn
- Python and Django Full Stack Web Developer Bootcamp, Udemy
- Data Structures and Algorithms: In-Depth using Python, Udemy
- AWS Certified Cloud Practitioner (CLF-C02) Cert Prep: 1 Cloud Concepts, LinkedIn
- The Complete Android 14 & Kotlin Development Masterclass, Udemy
- Java from Zero to Advanced, Udemy