



# BALPREET SINGH JAGGI

Toronto ON  
sidjaggi92@gmail.com / 4165874154  
WWW: balpreetjaggi.com

## SUMMARY

Senior-level Software and Application Developer passionate about creating cutting-edge products for IoT. Strong work ethic and dedicated to quality assurance. Adept at working with teams or independently in fast-paced settings.

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## SKILLS

- Programming Languages: Java, Springboot, C/C++, Angular, Typescript, HTML, CSS
  - Docker
  - Git
  - MongoDB
  - REST API
  - JUnit
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## EXPERIENCE

**IoT Consultant** / Software AG - Toronto

07/2018 - 10/2022

- Served as a Full Stack Developer on multiple IoT projects
- Developed microservices with REST API's using Java Springboot
- Created IoT device agents using C++ and Java, utilizing libraries such as libcurl and AWS SDK
- Developed and extended web applications using Angular, HTML & CSS
- Implemented complex event processing applications and microservices using Apama EPL
- Utilized unit testing frameworks such as JUNIT5, Mockito and GUnit
- Created CI/CD scripts for applications in Microsoft Azure.

**Student Employee** / Software Ag - Darmstadt

09/2016 - 05/2018

- Created a comprehensive educational package with tutorials and exercises for university students learning Apama
- Conducted tutoring sessions to assist enrolled students.

**Software Engineer** / Aricent Group - Gurugram

09/2014 - 03/2016

- Developed and extended multiple desktop applications for clients such as GoPro and ABB
- Supported the testing team by improving and debugging an internal application for automation test suites
- Utilized multiple technologies such as C, Java, JavaFx, and C#.

**Engineering Lead** / Persistent Systems - Toronto

11/2022

- Steered multiple software development projects to successful completion, adhering to timelines and budgets
  - Trained and mentored junior developers on IoT projects, promoting industry best practices and standards
  - Conducted code reviews to enhance code quality and adherence to best practices
  - Designed and maintained a distributed microservices architecture, boosting system modularity and reducing dependencies.
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## EDUCATION AND TRAINING

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## PROJECTS

### Deutsche Telekom – Smart Home Migration to Cumulocity IoT

Duration: Oct 2019 – Aug 2020

Role: Cumulocity IoT Consultant (Frontend Development & Apama Developer)

- **Developed a custom UI widget for floor plans and asset locations**, enabling smooth multi-floor navigation.
- Created an **EPL application** to aggregate data from **thousands of sensors**, generating metrics like **humidity, temperature, and occupancy**.
- Solved **scalability challenges** for **multi-building data aggregation**.
- Ensured **data accuracy** and optimized **user experience** across multiple countries, considering **timezones**.
- **Technologies**: EPL, Angular, Node.js, Git, Jenkins, Agile.
- **Team Size**: Worked with a team of 5-6 for UI; **independently developed** the EPL solution.

### Boston Scientific – Axeda Migration for Healthcare

Duration: Apr 2021 – Present

Role: Cumulocity IoT Consultant (Frontend & Backend Development)

- **Led** migration from **Axeda** to **Cumulocity IoT** for **healthcare device management**.
- Developed **C++ device agents** for **20,000+ devices**, customizing **Paho MQTT CPP** for **mutual authentication** with TPM.
- Implemented **file management** features (pause, resume, cancel) using the **AWS SDK for C++**.
- Created **Azure CI/CD pipelines** for automated deployments.
- **Technologies**: Paho MQTT CPP, C++ AWS SDK, Azure CI/CD, Docker, Angular, REST APIs.
- **Team Size**: 2-4 developers, **led UI and device agent development**.

### CITEGESTION – IoT Integration for Manufacturing

Duration: Jan 2024 – Present

Role: Cumulocity IoT Consultant (Frontend & Backend Development)

- **Led** the development of a **scalable widget** using **OpenStreet Maps** to visualize **10,000 devices** and their real-time events.
- Created a map displaying **real-time events and alarms**, with **color-coded device icons** based on alarm severity.
- Enhanced **device visibility** and **real-time monitoring**, improving user experience and data control.
- Developed a **filtering feature** for devices and events by time range, boosting data accessibility.
- **Implemented Angular's asynchronous features** like **Promise.all** and **RxJS** for efficient parallel data retrieval.
- **Technologies**: OpenStreet Maps, Angular, REST APIs, Async Promises.
- **Team Size**: 1 developer, **lead developer**.

### Shape Technologies – IoT Integration for Manufacturing

Duration: Oct 2023 – Feb 2024

Role: Cumulocity IoT Consultant (Frontend & Backend Development)

- **Led** the integration of **Apama Streaming Analytics** into the IoT platform.
- Addressed **scalability** and ensured **cross-device compatibility** for multiple IoT devices.
- Developed **custom widgets** and **backend microservices** for **real-time data management**.
- Enabled device **control, measurement resets**, and real-time data processing.
- **Implemented EPL scripts** for generating metrics and handling **high-volume data**.
- Ensured **flexible integration** across different device types.
- **Technologies**: Angular, REST APIs, Docker, Apama EPL, Azure CI/CD.

- **Team Size:** 2 developers, **led EPL development** and assisted with UI.

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## LANGUAGES

**English:**

Native/ Bilingual

**German:**

Limited

**Hindi:**

Native/ Bilingual