

# ARKAJYOTI CHATTERJEE

## Senior Staff Engineer

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Bengaluru, India



## EXPERIENCE

### Senior Staff Engineer

#### Infineon

May 2024 – Nov 2024 Munich, Germany

- Drove strategic alignment between HQ and global teams to advance Infineon's digitalization efforts.
- Established OWASP-compliant cybersecurity measures and API security protocols.
- Finalized patents on device communication systems and medical tracking innovations.
- Mentored and led global R&D initiatives, focusing on SaaS and software innovation.

### Senior Staff Engineer & Lead Cloud Architect

#### Infineon

Apr 2023 – May 2024 Bangalore, India

- Led 10-member cloud competence team, delivering solutions like Capsense, EPSS, and Trust M.
- Led the architecture of the OSTs platform, enabling modular application development and distribution.
- Integrated advanced billing systems into OSTs, enabling subscription management and API metering, processed \$5M in software sales.
- Oversaw documentation automation for Infineon's cloud platforms, reducing manual intervention by 85%.
- Mentored team members, conducting regular knowledge-sharing sessions and fostering a culture of innovation.

### Staff Engineer

#### Infineon

Apr 2021 – Mar 2023 Bangalore, India

- Architected the SAE platform, enabling rapid IoT prototyping and multi-million-dollar design wins.
- Acted as Product Owner and Technical Lead for the SAE platform, presented at global conferences.
- Presented innovations at global events like Embedded World and Mobile World Congress.
- Launched the SAE Hackathon platform, adopted by distributors like Arrow Electronics.

### Senior Engineer

#### Infineon

April 2020 – March 2021 Bangalore, India

- Transitioned from firmware to cloud-based application development.
- Designed PoCs like Smart Light and Smart Air Conditioner showcased at Mobile World Congress.

## SUMMARY

Senior Staff Engineer and Lead Cloud Architect with over six years of experience at Infineon Technologies. Proven expertise in IoT, SaaS platforms, modular frameworks, and scalable cloud solutions. Holder of 4 patents and author of IEEE papers, with extensive experience in driving innovation, building high-performance teams, and delivering enterprise-grade solutions.

## KEY SKILLS

**Programming Languages:** JavaScript, TypeScript, Golang, C, Python

**Frameworks and Tools:** React, Vue.js, Flask, Express, Next.js

**Databases:** DynamoDB, PostgreSQL, MySQL, Redis, TimeStreamDB, S3

**Cloud Platforms:** AWS (expert), Azure (intermediate)

**DevOps:** Jenkins, AWS CodePipeline, GitOps

**Security:** Cybersecurity, OWASP, JWT, Cognito, Hybrid KMS

**Leadership:** Team Building, Agile, Mentorship

**Monitoring:** ELK, CloudWatch, Coralogix

## EDUCATION

Postgraduate Diploma in Embedded Systems & IoT

Birla Institute of Technology, Pilani

2019 – 2020

BE in Electrical & Electronics Engineering

Birla Institute of Technology, Mesra

2014 – 2018

## PATENTS

- Device Manager for Web-to-Connected Hardware Communication
- Automatic Turn Signal for Straddle-Type Vehicles
- Dynamic Micro-Frontend Handling System
- OOBE Algorithm for Rapid Hardware Evaluation
- Method and System for Interacting with Node Devices using Scripting Languages

## AWARDS

**Global Spot Award (2019, 2021):**  
Recognized for exceptional contributions to innovation and product development.

## Software Engineer

### Infineon

📅 Jul 2018 – Mar 2020 📍 Bangalore, India

- Developed IoT PoCs, including Smart Light and Smart Air Conditioner, showcased globally.
- Maintained GitHub repositories for Arduino-compatible firmware libraries.
- Developed firmware for Infineon's XMC microcontroller series and Arduino-compatible libraries.

## INTERNSHIP

### Infineon

📅 Jan 2018 – Jul 2018 📍 Bangalore, India

Pioneered IoT solutions and contributed to Arduino compatibility for XMC microcontrollers.

### Schaeffler India

📅 May 2017–July 2017 📍 Pune, India

Contributed to ADAS system research that was later published in IEEE titled "Smart mobility: Algorithm for road and driver type determination.

### Power Grid Corporation of India

📅 May 2016–June 2016 📍 Kolkata, India

Supported power system analysis and operational efficiency studies.

## CERTIFICATIONS

- Certified Scrum Product Owner (CSPO)
- Advanced Certified Scrum Product Owner (A-CSPO)
- SAFe Product Owner/Product Manager (PO/PM)
- AWS Solutions Architect Associate

## KEY PROJECTS

### Smart Application Enablement (SAE) Platform

📅 March 2020 – March 2023

- Designed and developed a cloud-native platform to enable rapid prototyping of IoT applications in under 15 minutes.
- Enabled \$2M+ design wins by demonstrating the platform's capabilities at events like Embedded World and Mobile World Congress.
- Developed a unique adapter board with Arduino form factor, later adopted as a product by Infineon for mass market use.
- Presented the concept and technical details at conferences such as Infineon Software Conference and Infineon Innovation Days.

### Documentation Platform (Documentation as Code - DaaC)

📅 January 2023 – October 2024

- Pioneered a large-scale documentation platform for Infineon's products using automated pipelines and SmartLing integration.
- Transformed raw content in DITA/Markdown into organized, branded static sites with multilingual support.
- Launched documentation for 14+ products, significantly enhancing self-serve capabilities for engineers and customers.

🏆 **Best Project Award (2022):**  
For Smart Application Enablement (SAE) platform.

🏆 **High Performer Award (2022):**  
for outstanding leadership and technical excellence in delivering innovative SaaS and cloud solutions.

🏆 **Runner up Best Managed Projects (2023):**  
Using SAE Platform to achieve \$5M design win.

📄 **Infineon Innovation Presenter (2020–2024):**  
Regularly invited to present at global events, including:

- **Embedded World Conference (2021, 2022, 2023):** Demonstrated flagship applications like Smart Air Conditioner and SAE platform capabilities.
- **Infineon Innovation Days (2023, 2024):** Showcased groundbreaking projects like FRAMES, DECAF, and OSTs.
- **Mobile World Congress (2022, 2023):** Highlighted IoT solutions integrated with Trust M and EPSS for secure lifecycle management.

📈 **Global Hackathon Awards (2018–2020):**  
organized hackathons and innovation challenges, including the first-ever CIPURSE chip-based IoT hackathon.

## PUBLICATIONS

- "Smart mobility: Algorithm for road and driver type determination" in IEEE.
- "High efficient, high density isolated DC-DC converter" in IEEE.

## KEY PROJECTS

### FRAMES Framework

📅 October 2023 – Present

- Built a scalable development framework to abstract common components for customer-facing applications.
- Included tools like FRAME-Lang (DSL for app configuration) and FRAME Engine for automating workflows.
- Accelerated the development lifecycle for applications on OSTs, reducing onboarding and deployment efforts.

### DSEM (Decentralized Secure Element Management)

📅 December 2023 – November 2024

- Created a SaaS application for managing secure elements in IoT devices, including certificates, keys, and user roles.
- Developed backend services to securely generate and sign management scripts via Infineon's HSMs.

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## OSTS Framework (Online Software Tools and Services)

📅 April 2023 – November 2024

- Architected the OSTS platform to streamline development, distribution, and hosting of micro-frontend SaaS applications.
- Created the *TAFe* (*Technology Agnostic Frontend*) framework to ensure seamless integration of web applications as micro-apps.
- Enabled the distribution of 10+ SaaS applications, facilitating features like authentication, billing, and user management.

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## Billing Module (Shared Billing Service)

📅 May 2023 – February 2024

- Designed and led the development of a secure billing module integrated with AWS and Stripe, enabling real-time and subscription-based payments.
- Processed over \$5M in software sales, marking the first instance of Infineon selling value-added software products.
- Built using microservices architecture with Golang, DynamoDB, AWS RDS, and Lambda for backend infrastructure.

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## Sensor Audit Trail (SAT)

📅 April 2023 – February 2024

- Developed a blockchain-based audit trail for sensor data, ensuring data integrity and transparency using Hyperledger Fabric.
- Built on top of SAE, enabling integration of encrypted sensor data into private blockchain networks for secure auditing.
- Achieved verifiability and immutability for sensor data in distributed environments, enhancing compliance and trust.

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## Capsense Power Estimation Tool July 2023 – October 2023

- Built a secure tool for calculating power consumption of capacitive sensors, ensuring the confidentiality of proprietary algorithms.
- Integrated AWS Lambda, CloudFront, and S3 for backend computation and user interface.
- Developed an encryption system to secure formula access, making calculations accessible to engineers while protecting sensitive IP.

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## Trust M Matter (MTR)

📅 September 2023 – December 2023

- Jointly developed with Kudelski to enable secure integration of Infineon's Matter-compliant Trust M hardware.
- Implemented a secure redirection mechanism that automated user account creation and registration on the Kudelski platform.

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## EPSS (Edge Protect Signing Service)

📅 October 2023 – September 2024

- Delivered a secure platform for signing certificates, utilizing a hybrid architecture combining AWS backend and Infineon's DMZ.
- Enabled secure CSR uploads and certificate signing using Infineon's private keys stored in HSMs.
- Achieved hybrid HSM functionality, providing scalable and secure certificate management for edge devices.

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## IoT Pass

📅 January 2024 – May 2024

- Co-developed a digital product passport solution in collaboration with EU startup LoopID for device life-cycle management.
- Integrated secure edge identity and attestation mechanisms to ensure compliance with EU Circular Economy Action Plan.
- Delivered a reliable audit trail system for edge devices using innovative timestamp and identity linking techniques.

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## Out-of-Box Experience (OOBE)

📅 February 2024 – November 2024

- Designed a user-friendly SaaS platform enabling quick hardware evaluation via QR code scanning.
- Eliminated dependency on additional tools by allowing users to directly connect hardware to mobile devices and laptops.
- Filed multiple patents for algorithms enabling seamless device recognition and provisioning.

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## API Platform

📅 March 2024 – October 2024

- Built a platform enabling Infineon teams to write, test, and manage API specifications using OpenAPI standards.
- Provided sophisticated monitoring capabilities, including functional, load, and security checks for published APIs.
- Facilitated collaboration by enabling API sharing and updates via YAML files, fostering an API-first development culture.

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## Cybersecurity Lead

📅 April 2024 – November 2024

- Spearheaded cybersecurity initiatives for Infineon Central R&D software applications.
- Integrated security assessments and compliance checks into SDLC, transitioning DevOps to DevSecOps.
- Conducted penetration tests and security reviews for 20+ applications, reducing vulnerabilities by 40%.

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## SEMPER Application

📅 June 2024 – October 2024

- Designed and implemented a cloud-based application to monitor and control devices using the SEMPER module.
- Developed services for real-time and historical data collection, visualized in a web-based UI hosted on OSTs.
- Integrated AWS IoT, MQTT, and WebSocket for secure device communication and data streaming.