

Mohd Zaid Sarwar

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EDUCATION

Inderprastha Engineering College, Ghaziabad **Aug'19 – Jun'23**
Bachelors of Technology in Computer Science and Engineering | Percentage: 78.2

Sarvodaya Bal Vidyalaya, Jafrabad **Jul'16 – Mar'18**
12th - Physics, Chemistry, Mathematics (PCM) | Percentage: 75.5

EXPERIENCE

Software Engineer **Nov'25 – Present**
Infineon Technologies | Bangalore

GlobalPlatform

- Identification, development, and execution **GlobalPlatform feature test cases**, ensuring standards compliance and effective **defect reporting and analysis**.
- Identified and developed **test cases** for **Security Domain** functionality, **validating access control**, authorization rules, and **lifecycle state** transitions.
- Analyzed **APDU responses** and reported **defects related to Security Domain access violations** and **security checks**.

Software Developer **Mar'23 – Nov'25**
Colorplast Systems Pvt. Ltd | Noida

GlobalPlatform

- Hands-on experience with **GlobalPlatform**, including **Issuer Security Domains** and secure card content management.
- Worked with **Secure Channel Protocol (SCP-02 and SCP-80)** to enable secure **OTA communication** in **UICC** environments.
- Developed **GlobalPlatform APIs**, including **set event** and **clear event** operations, for controlled platform-level event handling.

UICC

- Implemented the **Read Binary** and **Read Record** command for **UICC/USIM**, enabling secure access to **transparent, linear fixed** and **cyclic EF file** as per **ETSI** specification.
- Implemented the **Update Binary** and **Update Record** for **UICC/USIM**, enabling secure update to **transparent, linear fixed** and **cyclic EF file** as per **ETSI** specification.
- Identified and developed test cases for the **UICC CREATE command** as per **ETSI 102_222**, validating authorization checks, error handling.

Applets

- Developed the **IMEI-Locking applet** in **java**, for enhanced **sim** security, enabling anti-theft functionalities. Implemented core logic for **IMEI-based device authentication** and **locking mechanisms**.
 - Developed the **Welcome Message applet** utilizing **USIM APIs** to deliver customizable, on-screen greetings and notifications, enhancing user engagement and service branding.
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PROJECTS

Memory Allocator | [Link](#)

- Designed and implemented a custom **dynamic memory allocator in C**, replicating **malloc, free, calloc, and realloc** functionality.
- Managed **heap memory** using manual system calls (**sbrk**) with block metadata, alignment, splitting, and coalescing.
- Gained deep understanding of low-level memory management and allocator design trade-offs.

Shell | [Link](#)

- Designed and implemented a **simplified Unix shell in C**, supporting **command parsing, process creation, and execution** using **fork(), execvp(), and waitpid()**.
 - Developed **built-in shell commands** such as **cd, help, and exit**, handling process-level behaviors like directory changes.
 - Implemented a **command execution loop** handling user **input**, argument **tokenization**, and **process lifecycle** management.
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TECHNICAL SKILLS

C/C++, Java, C#, DontNet, Javacard, Applet, UICC, OTA, ETSI, 3GPP, GP, VsCode, Keil, Git, Jira