

Muhammad Mohsin

Curriculum Vitae (*Targeting Embedded Systems*)

Profile

Highly motivated M.Sc. candidate in Computer and Systems Engineering with a core focus on **Security in Embedded Systems** at TU Ilmenau. Proven software development background, emphasizing C/C++, low-latency processing via NDK/JNI, and robust system architecture. Seeking a challenging **Working Student** position to apply and expand expertise in embedded software, systems development, and hardware-software interaction in Germany.

Technical Skills

Core Systems & Languages	C/C++ (JNI/NDK Integration), Python, Kotlin, Java, SQL, Dart
Embedded & Low-Level Tools & Platforms	Embedded Systems Security (M.Sc. Focus), JNI/NDK, OpenCV (Image Processing), Data Preprocessing, Feature Extraction Git, CI/CD (GitHub Actions), Firebase, ML Kit, ProGuard, JIRA, REST API Prototyping (Flask)
Architecture	MVVM, MVI, Clean Architecture, Repository Pattern, Reactive Programming (RxJava/Flow)
Certification	Google CyberSecurity Professional (Foundational knowledge in security principles)

Education & Language

2025 – 2027 (Expected)	M.Sc. Computer and Systems Engineering , Technische Universität Ilmenau, Ilmenau, Germany Focus Area: Security in Embedded Systems
2014 – 2016 German Language	M.Sc. Information Technology , University of Education Lahore, Lahore, Pakistan A2 Proficiency

Selected Projects (Relevant to Systems)

2024	Advanced PDF Scanner (50M+ Downloads) , System Integration & Performance
	<ul style="list-style-type: none">Engineered high-performance, low-latency image manipulation features (edge detection, filtering) by integrating C++ and OpenCV via JNI/NDK.Directly responsible for optimizing system-level resource consumption and ensuring real-time performance across diverse hardware.
2023	Fingerprint Classification System , Image Processing & Feature Extraction
	<ul style="list-style-type: none">Implemented a system combining rigorous image preprocessing and manual feature extraction (minutiae).Developed the data processing pipeline and implemented a baseline classifier (SVM), demonstrating capability in algorithm design at the processing level.

Ilmenau, Germany

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🌐 mohsinfifi.github.io/portfolio/ • 💼 muhammad-mohsin-android

👤 mohsinfifi

- 2024 **Multi-View CNN Implementation, Deep Learning & Computational Modeling**
- Developed and trained a multi-view Convolutional Neural Network for complex image classification (plant diseases).
 - Showcased hands-on capability in designing and training complex computational models, from data preprocessing to model evaluation.

Professional Experience

Feb 2022 – **Android Developer, Satus Systems, Lahore, Pakistan**

- **Systems Optimization:** Refactored critical codebase segments using Kotlin Coroutines & Flow, leading to a significant reduction in app freezes and improving user experience on the client side.
- **Quality & Reliability:** Reduced the overall app crash rate by 20% through proactive monitoring and robust code reviews.
- **Integration:** Integrated complex third-party SDKs (Stripe and PayPal), increasing payment success rate by 35%.

Apr 2021 – **Android Developer Intern, Softlinks, Lahore, Pakistan**

- Built foundational Android applications using Java and Kotlin, focusing on efficient data exchange via REST APIs (Retrofit and Volley).
- Translated complex UI/UX designs into functional, responsive screens, demonstrating attention to detail and user interface integrity.

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