REDWANE AIT BRAHIM

Computer Science Engineer | Software Development & Cybersecurity

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Github : https://redwane-stdy.github.io/cv/

PROFESSIONAL PROFILE

Computer Science Engineering student (Master's level) with **3 years of experience** in software development and cybersecurity. Proven expertise in secure application design, technical project management, and system architecture. Seeking a **6-month graduation internship** starting **February 2026** to apply technical skills in a professional environment.

TECHNICAL SKILLS

Programming Languages

- **Java**: Application development, unit testing (JUnit)
- **C/C++**: System programming, client-server architecture
- **C#**: Unity, scripting
- **Python**: Development, automation, data analysis
- **SQL**: Database management, complex queries
- **Solidity**: Smart contracts, blockchain development

Technologies & Frameworks

- **Cloud Computing**: AWS (Amazon Web Services)
- **Systems**: Linux, Windows, socket programming
- **Security**: Cryptography, DMARC, DKIM, SPF, end-to-end encryption
- **Tools**: Git, UML, ProB, multithreading, multiprocessing

Methodologies

- Software testing (unit, integration, validation)
- Software architecture and system design
- Agile project management

- Formal specifications (B method)

EDUCATION

2023 - 2026 | **Master of Engineering in Computer Science**
Télécom SudParis - Institut Polytechnique de Paris
Specialization: Cybersecurity and Software Development

2021 - 2023 | **Mathematics and Physics Preparatory Class**
Lycée Jean-Bart
Intensive training in mathematics and physics

2020 | **Scientific Baccalauréat - Highest Honors**
Lycée de l'Europe
Specialization in mathematics and sciences

EXPERIENCE & PROJECTS

UNITY GAME DEVELOPMENT EXPERIENCE | *2025*

- Created interactive game using Unity3D and C#
- UI/UX design
- Used UML for system design and Git for version control
- Using design patterns, good code practice, performance optimization
- **Technologies**: Unity3D, C#

SECURE VOTING APPLICATION IN JAVA | *February 2025*

- Developed secure voting application handling **500+ concurrent users**
- Implemented **15+ features** with unit tests (coverage **>95%**)
- Used UML for system design and Git for version control
- Reduced bugs by **40%** through integration and validation testing
- **Technologies**: Java, JUnit, UML, Git

VOTING SYSTEM ARCHITECTURE IN B SPECIFICATION | *January 2025*

- Designed formal architecture for voting system with **99.9% reliability**
- Validated **50+ test scenarios** using ProB
- Applied formal methods to ensure system security
- **Technologies**: B method, ProB, formal specifications

COMPLEX NETWORKS IN C | *March 2025*

- Developed client-server architecture supporting **100+ simultaneous connections**
- Optimized performance with multithreading (**30% response time improvement**)
- Implemented thread/process synchronization achieving **0 deadlocks**
- **Technologies**: C, Socket programming, multithreading, multiprocessing

SECURE MESSAGING APPLICATION | *Summer 2025*

- Designed and developed messaging application with **end-to-end encryption**
- Implemented DMARC, DKIM, SPF reducing spam by **95%**
- Handled **1000+ messages/second** with high availability
- Ensured compliance with international security standards
- **Technologies**: Cryptography, security protocols, email authentication

FORMALIZATION OF CONWAY ALGEBRAS IN COQ | *2025*

- Mechanized algebraic properties for finite and infinite behaviors in Coq
- Defined axiomatic semantics for regular operators using type theory
- Constructed +/* monoids, booleans, naturals, with, ∞
- Explored foundational links between algebra, regular expressions, automata theory
- **Technologies**: CoqIDE, Git

xv6 OPERATING SYSTEM INTERNALS | *2025*

- Analyzed virtual memory mapping and page allocation mechanisms
- Kernel-level scheduling, multi-threading, process lifecycle
- Modified and extended OS components for learning and testing purposes
- Deepened understanding of low-level OS design and architecture
- **Technologies**: xv6 Kernel, Memory Management, Scheduling, C Programming

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LEADERSHIP & COMMUNITY INVOLVEMENT

Vice President | KRYPTOSPHERE | *2024-2025*

- Organized **5 hackathons** gathering **200+ participants**
- Conducted **10 workshops** on Blockchain and AI (satisfaction **>90%**)
- Managed **€15,000 budget** and team of **12 members**
- Increased membership by **150%** in 1 year

Volunteer | INT'ERVENIR | *2023-2025*

- Participated in **20+ community outreach actions**
- Coordinated **3 projects** supporting people in need
- Mobilized **50+ volunteers** for field activities

LANGUAGES

- **French**: Native (C2)
- **English**: Advanced (C1)
- **German**: Intermediate

CERTIFICATIONS & ACHIEVEMENTS

- **Security Clearance**: Eligible for government security clearance
- **Academic Excellence**: Graduated with highest honors
- **Leadership Recognition**: Vice President role in technical association
- **Technical Innovation**: Led multiple successful software projects

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TECHNICAL KEYWORDS

Java, C/C++, Python, SQL, Cybersecurity, AWS, Git, UML, Software Architecture, Unit Testing, Multithreading, Blockchain, Cryptography, Web Development, Database, Agile Methods, Formal Specifications, System Design, Network Programming, Security Protocols, Cloud Computing, DevOps, Software Engineering