YASSER CHAOUKI

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STRATEGIC SUMMARY

I am a highly motivated first-year Cybersecurity engineering student with a robust foundation in mathematics, algorithm design, and programming (Python, Java). I bring specialized expertise in cryptography and information security, demonstrated through independent research on RSA cryptosystems, lattice-based attacks, and cryptanalytic vulnerabilities. My analytical approach combines theoretical rigor—applying number theory and algebraic proofs to security problems—with practical implementation skills. I'm passionate about cyber defense and interested in exploring machine learning and automation applications within cybersecurity. I'm continuously expanding my knowledge through hands-on learning courses. I'm eager to contribute my theoretical knowledge, research experience, and technical skills to a challenging cybersecurity internship where I can apply my foundation in algorithm design and information security while developing capabilities in machine learning and automation. My goal is to leverage my analytical mindset and programming skills to help organizations strengthen their security posture against evolving cyber threats.

EDUCATION

Ecole Nationale Supérieure de l'Intelligence Artificielle et Science de Données (ENSIASD)

Engineering degree in cybersecurity | Sept 2025 – Present | Taroudant, Morocco

- Specialization: Adversarial machine learning, secure AI architectures, network security
- Relevant coursework: Cryptography, algorithmic complexity, network security, probability & statistics, python, machine learning, reseau informatique, architecture des ordinateurs
- Project achievement: Engineered predictive ML model using Python and Scikit-learn (Dec 2025), achieving 92% accuracy in classifying network intrusions based on real-world datasets (January 2026), started a RAG system for mathematical problem solving using LlamaIndex and Pinecone (January 2026), started a 'learning by doing' github repo from microsoft titeled ML-For-Beginners (January 2026)

CPGE Moulay Al Hassan

Mathematics & Physics (MPSI/MP) | Sept 2023 – July 2025 | Morocco

- Intensive two-year program: Advanced linear algebra, multivariable calculus, discrete mathematics
- Performance: Consistently ranked top student in Mathematics and Python programming

CERTIFICATIONS & AWARDS

- ISC2 certified in cybersecurity (CC): Candidate (In progress)
- Math&Maroc competition (MMC) 2024: National finalist – Recognized for problem-solving and mathematical reasoning skills

TECHNICAL SKILLS

Security & cryptography: RSA cryptanalysis, Integer factorization, network security, linux terminal, VirtualBox/VMware, TCP/IP, DNS, VPNs

AI/Machine Learning (In progress): LLMs (Llama-3, GPT), RAG systems (LangChain, LlamaIndex, Pinecone, ChromaDB), neural networks, computer vision, PyTorch/TensorFlow, Scikit-learn, NumPy, Pandas, Supervised/Unsupervised Learning, feature engineering, model validation

Programming & Development: Python (Expert), Java (Object-Oriented Design), SQL, C/C++, JavaScript(In progress), FastAPI(In progress), Git, Bash, n8n Automation(In progress)

Mathematical Foundations: Linear algebra, multivariable calculus, probability theory, discrete mathematics, graph theory, algorithm design, complexity analysis (Big O), stochastic optimization

Tools & Environments: Linux/Unix Shell, VS Code, Jupyter Notebooks, Figma, LaTeX-OCR

CYBERSECURITY RESEARCH

Cryptographic research analyst (TIPE)

CPGE | Jan 2023 – Jun 2024

- RSA security audit: Conducted comprehensive theoretical audit of RSA public-key cryptosystem, analyzing computational complexity of integer factorization through rigorous mathematical investigation
- Attack simulation: Designed and simulated lattice-based side-channel attacks using Graham-Schmidt orthogonalization for polynomial reduction, demonstrating RSA key generation vulnerabilities
- Mathematical framework: Formulated algebraic proofs bridging abstract number theory with practical PKI security standards, establishing theoretical foundation for cryptanalytic vulnerabilities

- Publication: Authored comprehensive research paper on cryptanalytic attack frameworks, published on LinkedIn for technical community engagement

AI & SOFTWARE ENGINEERING PROJECTS

AI research engineer – Symbolic reasoning & RAG systems (In progress)

Independent R&D | Jan 2025 – Present

- RAG architecture: Engineering advanced retrieval-augmented generation (RAG) system optimized for symbolic mathematics and pedagogical reasoning, benchmarked against CPGE-level problem sets
- Technical stack: Orchestrated workflows using LangChain and n8n, implementing Pinecone/ChromaDB for mathematical theorem indexing. Integrated LaTeX-OCR for PDF equation parsing
- LLM fine-tuning: Fine-tuned Llama-3-70B with custom Chain-of-Thought (CoT) system prompts, achieving 15% improvement in reasoning accuracy on GSM8K benchmark via multi-shot prompting
- Performance optimization: Optimized retrieval latency to <200ms using HNSW indexing and implemented self-correction agent reducing LaTeX rendering errors by 40%

Lead software architect & project manager

Enactus ENSIASD | Taroudant, Morocco | Sept 2025 – Present

- Strategic innovation: Leading end-to-end development of hyperlocal delivery infrastructure, bridging logistical gaps between Taroudant vendors and ENSIASD student community
- Backend architecture: Architecting robust backend system for real-time order processing and dispatching logic, ensuring high availability for 100+ student users
- Agile leadership: Managing full SDLC from requirement gathering to MVP deployment, leading cross-functional team using "pedagogy of doing" principles

AI automation engineer

Independent technical projects | 2024 – 2025

- Academic planner agent: Engineered custom AI agent using Google Gemini API with logic-based validation loops and API key security protocols
- Math tutoring agent: Developed specialized tutoring agent for CPGE students, optimizing prompt engineering for logical verification and step-by-step problem solving
- Travel planner agent: Built autonomous travel planning agent with API orchestration, data minimization protocols, and secure key management

Computer Vision & Neural Network Development

Independent R&D | 2024

- Neural network from scratch: Built and trained neural network using Python to classify alphanumeric datasets, applying Linear Algebra and Calculus principles for weight optimization and backpropagation
- Model validation: Implemented performance metrics and validation techniques to ensure model accuracy and generalization

Full Stack Developer

Freelance & Portfolio Projects | 2024

- Java enterprise application: Developed comprehensive stock management and invoicing application using Java/Swing, implementing strict object-oriented design patterns for modularity and maintainability
- Rapid prototyping: Delivered full-stack web solutions for local businesses, designing high-fidelity Figma prototypes and translating them into responsive frontend code with functional backend integration

PROFESSIONAL ATTRIBUTES

- Analytical thinking: Proven ability to deconstruct complex cybersecurity problems using first-principles reasoning and mathematical rigor
- Autonomous learning: Self-directed mastery of ML stack, cryptographic systems, and AI frameworks through project-based learning
- Leadership & collaboration: Cross-functional team leadership, peer-to-peer learning, and collective intelligence in Agile environments
- Resilience: High-pressure performance in competitive mathematics and intensive CPGE curriculum, demonstrating adaptability and commitment to excellence