CHRISTOPHE EL CHABAB

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EDUCATION

American University of Beirut (AUB)   Aug 2023 – Present
Dual Degree: B.E. in Computer Science & Engineering and B.S. in Mathematics   **GPA: 4.0/4.0**
Received a Top 10 MERIT full scholarship   SAT: 1520 (2022)
Concentration in Artificial Intelligence and Data Science

Boston University (BU)   Aug 2025 – Present
Selected for a semester-long exchange program, representing my home university and country.

Collège de la Sainte Famille Fanar   Sep 2008 – Jun 2023
French Baccalaureate in General Sciences   **Valedictorian (19.94/20)**

EXPERIENCE

Research Assistant | *AUB Department of Mathematics*   Jun 2024 – Mar 2025

- Researched AI-driven solutions for physics-based inverse problems, focusing on logistic models and nonlinear PDEs.
- Built classical optimizers and PINN models, achieving parameter-recovery errors as low as 10^{-6} for ODEs and 10^{-2} for PDEs.

Instructor | *Elevate Arabia & Private Tutoring*   Jan 2023 – Present

- Delivered customized SAT, math, physics, and programming lectures that boosted student performance by around 40%.

Teaching Assistant | *AUB Faculty of Engineering*   Jan 2024 – Present

- Led weekly labs and mentored 30+ students in algorithmic problem-solving, for EECE 230 (Intro to Programming) and EECE 331 (Design & Analysis of Algorithms).

Cyber Intelligence Intern | *POTECH Consulting S.A.R.L.*   Aug 2023 – Sep 2023

- Gained hands-on experience in passive reconnaissance, OSINT, and threat-intel using Kali Linux tools.
- Applied surveillance on a simulated target, identifying exposed emails, leaked credentials, DNS/server info, and more.

SELECTED PROJECTS

Pipeline for Converting Mathematical Images to LaTeX | *Python, PyTorch, CNN, LSTM*   Sep 2025 – Present

- Designing an image-to-sequence model combining a CNN encoder with an attention-based LSTM decoder in order to generate corresponding LaTeX code from rendered formula images.
- Implemented full preprocessing and training pipelines (tokenization, batching, padding, etc.), looking to track experiments, varying loss functions and hyperparameters.

Reinforcement Learning Agent for Pokémon | *Java, Q-Learning, RL*   Nov 2025

- Built a temporal-difference Q-learning model for a Pokémon battle simulator as a course's final project.

LEADERSHIP EXPERIENCE

Cabinet Member | *Association for Computing Machinery AUB Student Branch*   July 2023 – Jun 2025

- Organized nation-wide events, including AI bootcamps, competitive programming tournaments, and industry tech talks.

Scout Chief | *Les Scouts du Liban*   Jun 2013 – Present

- Led and mentored 50+ members in weekly educational and leadership activities building teamwork and problem-solving.
- Directed large-scale initiatives, including multi-day camps and food-distribution drives for families affected by conflict.

SKILLS

Programming: Python, C/C++, Java, React, SQL, MATLAB, ...
Frameworks: PyTorch, TensorFlow, Scikit-learn, Keras, Hugging Face, Pandas, ...
Tools: PyCharm, Intellij IDEA, VS Code, Adobe Premiere Pro, Adobe After Effects, Adobe Photoshop, Blender, Autodesk Maya...
Interests & Hobbies: Culinary Arts, Motion Graphics, Filmmaking, Rock Climbing, Traveling, Camping, ...
Languages: English (Fluent), French (Fluent), Arabic (Native).