Jean Youakim

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EDUCATION

Lebanese American University (LAU), Byblos, Lebanon Sep 2024 – Spring 2028 (Expected)
BE in Computer Engineering

- **CGPA: 3.99** | **Major GPA: 4.00**
- Relevant Coursework: Machine Learning, Large Language Models, Trustworthy & Secure AI, Data Structures & Algorithms, Computer Architecture, Microprocessors, Database Systems, Digital Logic Design, Signals & Systems
- Certifications: DeepLearning.AI Machine Learning & Deep Learning Specializations (Andrew Ng)
- Member of the IEEE AI Club | Member of the Software Engineering Club
- Honors: Ranked Top 30 nationally in the Lebanese Baccalaureate (General Sciences Track)

EXPERIENCE

LebNet Tech Fellows Program – AI Track Fellow (3-Month Program) Jun 2026 – Aug 2026

- Graduated with a **Certificate of Distinction**, awarded to 33 of 102 graduating fellows.
- Completed a selective fellowship curriculum spanning classical ML, neural networks, transformer architectures, LLM fine-tuning, RAG, and agentic AI systems; capstone project: Wildfire Detection (below).

Private Piano Instructor 2024 – Present

- Teach 4 private students with individually tailored curricula, managing scheduling and lesson planning independently.

PROJECTS

Wildfire Detection – Fire & Smoke Early Warning System GitHub LebNet Fellowship Capstone, Aug 2026

- Built an end-to-end wildfire early-warning system using YOLOv8m on the D-Fire dataset, detecting and localizing fire/smoke across drone, mobile, and fixed-camera feeds with configurable operating modes.
- Engineered the full ML pipeline with validation, config-driven training, calibrated evaluation, and unified inference; on the held-out test split, achieved 0.795 mAP@50 and image-level alert recall of 97.8% at 98.2% precision (PR-AUC 0.996), with a Streamlit demo, CLI, and unit-tested core.

Prompt-Injection Arena – Red vs. Blue Multi-Agent LLM System *(Ongoing)* COE 548 Course Project, LAU, Fall 2026

- Building a LangGraph multi-agent arena where a red-team Attacker agent attempts direct and indirect (poisoned RAG document) prompt injections to make a simulated company email assistant leak a secret token.
- Blue-team Defender agents screen untrusted content and write new detection rules after each breach, accepted only if they block the attack without flagging any of 30 benign emails.

FIFA World Cup 2026 Prediction Model GitHub Personal Project, Jun 2026

- Built an Elo rating system over 15,790 international matches (2010–2026) and a Random Forest match-outcome model, driving 50,000+ Monte Carlo simulations of the full 48-team tournament.
- Published the forecast on GitHub before the tournament began: correctly predicted Spain as champion, with the model's top four matching the actual semifinalists.

Smart Attendance System GitHub Logic Lab Course, LAU, 2026
Hardware Design Contributor

- Co-designed and breadboard-built a hardware prototype using 47 74LS-series logic ICs; engineered the 10-to-0 countdown module with JK flip-flops and debugged physical hardware timing against Quartus simulations.

Heart Pulse Monitoring System GitHub Electronics Course, LAU, 2026
Hardware Simulation & Circuit Designer

- Designed and simulated an analog heart-rate monitoring circuit in Proteus, implementing multi-stage operational amplifiers and active band-pass filters to extract clean cardiac signals from optical sensor noise.

LEADERSHIP & ACTIVITIES

- **Scouts de l'Indépendance:** Active member for 7 years (2018–2024), leading youth camps and civic initiatives
- **Piano:** Achieved Level 7A certification at Antonine School of Music in 5 years
- **Sports & Games:** LAU Futsal Team Player; Former U16 National Futsal Competitor; 1500 Elo (Rapid Chess)
- **Student Council:** Class Representative (Grade 12)

TECHNICAL SKILLS

LLMs & Agentic AI: LangChain, LangGraph, RAG, Chroma (Vector DB), Pydantic, Prompt-Injection Defense
Machine Learning & Computer Vision: PyTorch, YOLOv8 (Ultralytics), OpenCV, scikit-learn, Pandas, NumPy, Streamlit
Hardware, Embedded Systems & Robotics: ROS 2 (Fundamentals), HCS12 Assembly, Quartus Prime, Proteus, 74LS Logic ICs, Op-Amp Circuits, FSM Design
Programming Languages: Python, C++, Java, SQL, JavaScript, HTML/CSS
Tools & Infrastructure: Git, GitHub, Linux, pytest, MongoDB
Spoken Languages: Arabic (Native), English (C2), French (C1), Spanish (B1), German (A1)