Serena Stephan

Jamhour, Lebanon

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Education

American University of Beirut   *August 2023-June 2027(Expected)*

- Bachelor's in Computer and Communications Engineering
- USAID-HES scholar | Dean's Honor List (all semesters) | GPA:4.0/4.0

Research Experience

- Research on the relationship between backtracking search algorithms and heavy-tailed distributions (through the Vertically Integrated Projects program)
  August 2025-Present
- Research on quantum sensing for navigation using the Earth's magnetic field (through the Undergraduate Volunteering Research Program)
  October 2025-Present

Teaching Experience

- Teaching Assistant for EECE 330(Data Structures and Algorithms) at AUB
  August 2025 -December 2025

Projects

Private On-Premise Platform

Course Project, EECE 490

- Built a fully local, on-premise workspace using Streamlit and Ollama.
- Implemented features for forecasting, planning, document analysis, translation, email drafting, and document-to-PowerPoint conversion.

Car Racing Game

Course Project, EECE 350

- Python-based multiplayer game with real-time client-server architecture.
- Implemented authentication, online player management, invitation handling, and live game-state synchronization.
- Integrated background music and graphical interface for enhanced UX.

RV32IF Datapath Design with Floating Point Unit (FPU)

Course Project, EECE 321
- Extended the RV32I single-cycle datapath by integrating a Floating Point Unit (FPU) to support IEEE-754 single-precision operations.
- Supported operations: add, sub, mul, min, max, comparison; handled NaNs and infinities.

Digital Communication System Simulation

Course Project, EECE 442

- Constructed, using MATLAB, a full physical-layer communication simulation chain, along with an application for experimentation.

Skills

Programming Languages: Python, C++, Verilog, MATLAB

Volunteering

- Volunteer- Haven(AUBMC)
  September 2023-Present
  Supported pediatric patients and their families.
- Occasional Volunteer- FoodBlessed, Dar Al Aytam, Youth National Development
  Assisted with community initiatives on an as-needed basis.