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EDUCATION

Norwegian University of Science and Technology (NTNU), Norway — Sep 2023 – Aug 2024
Degree: European Master in Embedded Computing Systems (EMECS)
Scholarships: Erasmus Mundus Scholarship

Rheinland-Pfälzische Technische Universität (RPTU), Germany — Oct 2022 – Aug 2023
Degree: European Master in Embedded Computing Systems (EMECS)
Scholarships: Erasmus Mundus Scholarship

American University of Beirut (AUB), Lebanon — Aug 2018 – Jun 2022
Degree: Bachelor of Science (BS) in Computer Science
Cumulative GPA: 3.75/4.0
Relevant Courses Taken: Advanced Algorithms and Data Structure, Machine Learning, Data Science, Operating Systems, GPU computing, Software Engineering, Database Systems.
Scholarships: MEPI Tomorrow's Leaders Full-Funded Scholarship Program
Honors/Awards: Dean's Honor List, 4 semesters

University of Pennsylvania, USA — Aug 2021 – Dec 2021
Exchange Semester in the International Guest Student Program (IGSP)

EXPERIENCE

Rheinland-Pfälzische Technische Universität (RPTU) — Mar 2023 — Aug 2023
Role: RTOS Lab Instructor
- Helped students in the lab assignments.
- Examine the students orally after the competition of each experiment.

American University of Beirut (AUB) — Dec 2021 — Jun 2022
Role: Undergraduate Research Assistant
- Assisted in extracting information from Arabic and medical documents using data science techniques.
- Conducted research on the integration of machine learning in the medical field.

American University of Beirut Medical Center (AUBMC) — Jun 2021 — Aug 2021
Role: Software Engineering Intern
- Migrated several vital applications from an old server to a new one.
- Updated applications from ASP to ASP.NET.
- Deployed application into the production stage.

PROJECTS

Compressing CNN models for resource-constrined systems: This is an ongoing project in collaboration with Professor Di Liu which aims at reducing the size of a CNN model by several techniques such as channel/layer pruning, and quanitization. The final compressed model will be deployed on Nvidia Jetson TX2 for real time image classification tasks.
Embedded System Project: The aim of the project is to develop a client in a distributed system in which the communication is based on the CAN bus protocol. The hardware and the software for the SoC are developed on a PC running Linux. The hardware development is in VHDL using Xilinx Vivado software. Software development is done in LT16 assembler. The testing was done with Nexys A7 FPGA board. The SoC is a lightweight embedded platform, consisting of a processor core, the LT16x32, a Wishbone bus interconnect module, an interrupt controller, memory controllers and peripheral I/O controllers.
Branch Network Optimization – Unsupervised machine learning was used along with spatial and consumer behavior data to determine the optimal location for retail branches. This project systematically followed the whole machine learning pipeline.
Jaccard Coefficients for Graphs – This project was about parallelizing a sequential C code on finding the Jaccard Coefficients in graphs using Cuda. In addition, several optimizations were done to improve the runtime such as thread coarsening and privatization. This was a final project is CMPS 297S (GPU Computing) and was accomplished by a team of three.
PennOS - It is a UNIX-like operating system that includes several functionalities such as basic priority scheduler, FAT file system, and user shell interactions. PennOS was a final project in CIS 380 (Operating System) and was accomplished by a team of five students.

EXTRACURRICULAR ACTIVITIES / LEADERSHIP

AI Ready Academy – Zaka/Microsoft, Beirut, Lebanon — Dec 2020- Mar 2021
- Introduced fundamentals and concepts of cloud computing, data science, and machine learning.
- Became Microsoft certified for AZ-900, DP-900, and AI-900.
- Participated in two hackathons and developed a hate speech detection tool using NLP.

AI Bootcamp – Beirut AI, Beirut, Lebanon — Aug 2020
- Introduced to the different areas of AI such as machine learning, deep learning, computer vision, NLP, time series analysis.
- Participated in the final hackathon and developed a face mask detection tool using computer vision techniques.

SKILLS

Languages: Fluent in Arabic, Proficient in English, Basic in German
Client-Side: HTML, CSS, JavaScript, Vue.js, Bootstrap
Technical skills: Python, NumPy, Scikit-learn, Pytorch, C++, Java, C, Django, Node.JS, ASP.NET Web Forms, ASP.NET MVC, ASP.NET Core MVC, Vue.JS, APIs, C#, Visual Basic, SML, SQL, PHP, Verilog, System Verilog, ARM, RISC-V, MIPS.