

# ABED AL MOTTALEB AL AMIN

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## OBJECTIVE

Extending my theoretical knowledge through formal research with passionate professors, plus advancing technical skills through freelance/part-time opportunities, to keep pace of rapid changes in the computer science industry.

## EDUCATION

### Bachelors

*American University of Beirut*

AUG 2017 –  
MAY 2021

- **Major: Computer & Communications Engineer: GPA: 3.73/4.0 - 86.59/100**
- **Minors: Data Science: GPA: 4.0/4.0, Mathematics: GPA: 4.0/4.0**

## PROJECTS & RESEARCH

### Automated Reasoning & Verification Research (PRESENT):

- Supervised undergraduate research by Professor [Fadi Zaraket](#).
- The purpose is to use probabilistic Boolean decision networks to prove correctness of programs or extract insight from documents.
- Review state of the art automated reasoning techniques and apply them to interesting problems emerging from programs and related documentation.
- Examine SAT solvers.
- Work on information extraction for Quantifier-Free Uninterpreted Functions maps theory to Array theory, for code verification purposes.

### Online Judge for Coding Courses – FYP

- The project is intended to be a final year project developed over two semesters, among a team of four including me, and under the supervision of MSFEA professor [Louay Bazzi](#) at AUB.
- The project's purpose is to provide students with instantaneous feedback on the code they write, as the feedback would be a detailed report for compilation errors, runtime errors, auto-generated unit tests failures, etc. The goal is to be able to provide students with more details, references, and hints than what a compiler could provide. The optimal capability we want our project to support, is running an ML model over student's code to accelerate the learning procedure without spoiling it. (The project is still being under construction)
- Repository reference: [AUB Educational Coding Platform - Repos \(azure.com\)](#)

### **Chat Service Web Application**

- Designed & Implemented the backend using various services: ASP.NET (using C#), Azure DevOps, and Azure Portal.
- Focused on designing and implementing a well-organized architecture including Data Contracts, IntegrationEndToEnd tests, and DeploymentEndToEnd tests. In addition to RESTful APIs & HTTP Controllers Communication.
- Performed sufficient testing and code coverage through XUNIT, in addition to using "mocks" for testing error handling at the level of establishing a connection with the Database.
- Maintained a well-layered structure for the Web App from the Controller layer to the Storage layer passing through a Service layer.
- Managed the project's design and implementation using Visual Studio, Git, Microsoft Azure DevOps, and Microsoft Azure Portal converging and abiding by CI / CD practices and strategies in addition to writing clean code.
- Managed the project's deployment and production services including database services, logs, metrics, notification service using Azure portal, i.e. Web app services, Application Insights, Azure table, Azure Blob, DocumentDb ...
- Repository reference: [ChatServiceWebApp - Repos \(azure.com\)](#)

### **Data Science Project on Cardiovascular Disease Prediction**

- The project was intended for a Data Science course to apply the whole procedure for such a project in a real-life scenario, using R and Python interchangeably.
- The project is based on a huge dataset from Kaggle about people who suffered such disease, as the project was a classification problem to predict cases where people would suffer cardiovascular disease or not, based on certain data (features).
- The process spanned: exploratory data analysis, data cleaning (including imputation techniques), feature selection, feature engineering, variable encoding (numerical to categorical), machine learning models: KNN, Regression Trees, XGBoost, FNN, evaluating machine learning algorithms (evaluation metrics, cross-validation, and bias-variance assessment and improvement), improving machine learning algorithms (boosting, bagging, hyper-parameter search), etc.
- Reports references: [Cardiovascular Failure ML Project](#)

### **Attendance Tracker as an Android Application (mobile development course deliverable)**

- Repository reference: [AttendanceTracker](#)

## WORKING EXPERIENCE

### **Lead Engineer (part time)**

**@Investment Capital Advisors ICA**

OCT 2020 –  
FEB 2021

- Based on two years of experience in developing forex trading strategies and algorithms, through ultimate automation in analysis, trade execution, and risk management, I was responsible for leveraging the company's liabilities in shifting from manual to automated services.
- My role was to form a team of developers and engage them in the domain of automated trading & risk management.
- Plus maintaining and editing the company's website for partial re-branding and integrating third-party applications within it.

### **Software Engineer (internship)**

**@SAUGO 360**

JUNE 2020 –  
AUG 2020

- The purpose is to design an App based on a Network Service Orchestration framework (NSO by Cisco) to audit network services from device configuration to network systems design & implementation, all through simulation.
- My role was to write unit tests, refactor code, and contribute to features.
- Contributed to Backend development which was done using Python3.
- Contributed to Frontend development which was done using HTML, CSS, and TypeScript ReactJs framework.

### **Programming Lab Assistant (Work Study)**

**@American University of Beirut**

FEB 2020 –  
DEC 2020

- An introductory course in programming using Python in the first semester.
- A Data Structures & Algorithms course using C++ in the second semester.

## TECHNICAL SKILLS

**Programming languages & Web Dev:** C, C++, C#, JAVA, Python3, R, JavaScript, Ruby, SWIFT, Assembly, HTML5, CSS3, bootstrap.

**Frameworks:** ASP.NET Core, Spring Boot, ReactJs, Angular, XCode, Android Studio, Qt.

**General Development Expertise:** Azure DevOps, MySQL, Unit Testing, Design Patterns, Clean Code, Git.