Denis-Antonio Știube

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Summary

I am currently a 2nd year undergraduate student in Computer Science with strong foundation in software development and problem-solving. Eager to apply theoretical knowledge to real-world challenges, with a passion for learning new technologies and contributing to innovative software solutions.

I am seeking a software development internship to further enhance skills and gain practical experience in a dynamic and collaborative environment.

Education

- **Bachelor of Computer Science** **2023 - Present**

  Babeș-Bolyai University, Cluj-Napoca

  Relevant courses:

  - Programming Fundamentals
  - Data Structures and Algorithms
  - Graph Algorithms
  - OOP
  - Operating Systems
  - Relational Databases
  - Computer Networking
  - Probability and Statistics
  - Artificial Intelligence

- **Mathematics and Computer Science High School** **2019 - 2023**
  Samuil-Vulcan National College, Beiuș
  Awards and Achievements:
  - Qualified at national stage of math Olympiad in 12th grade (1st place at county stage) and awarded with Bronze Medal by SSMR (Romanian Mathematical Sciences Society)
  - 9.80 in the Mathematics exam of Baccalaureate
    and 9.25 in the Computer Science exam of Baccalaureate

Projects

GitHub: https://github.com/denton1612/Projects

1. **Sepia filter detection – ANN and CNN:**
   - Designed and implemented an artificial neural network (ANN) and a convolutional neural network (CNN) from scratch (using only NumPy) to classify images based on the presence of a sepia filter. The project involved custom dataset preparation, forward and backpropagation logic, and evaluation of model performance relying on external ML frameworks (sklearn).

2. **Community Detection in Graphs using Genetic Algorithm:**
   - Implemented a genetic algorithm from scratch to detect communities in undirected graphs by optimizing modularity. The solution includes custom chromosome encoding, selection, crossover, mutation, and fitness evaluation, tailored for graph clustering. This project deepened my understanding of evolutionary computation and complex network analysis.

3. **Social Network app:**

   - Social Network app is a CRUD application with GUI developed in Java.

   - For this app, I chose to ensure data persistence using a database.

   - Being a social network app, users can send friend requests to other users, accept friend requests, and exchange messages. To use the app, all users must have an account. Creating an account requires choosing a username, providing an email address, and setting a password. When a user receives a friend request, he is notified. The messages can only be sent to friends. A user has the option to send a message to multiple friends simultaneously.

   - By building this application I learnt the utility of design patterns such as Observer or Singleton, and I also have expanded my knowledge in the GUI domain by using JavaFX framework.

4. **Basketball Client Server:**

- This C# client-server application, developed using Windows Forms for the graphical user interface, is designed to support cashiers in managing basketball game ticket transactions. The client interface enables cashiers to register ticket purchases and filter purchased tickets by client, allowing for fast and organized access to customer-specific data.
- The application uses a TCP/IP communication model between clients and the central server. A custom protocol based on JSON-formatted request-response messages ensures clear and structured communication. The server is capable of handling multiple simultaneous client connections, processes requests in real time, and maintains a consistent record of all transactions.
- For data persistence, the system utilizes an SQLite database, offering a lightweight and reliable solution for storing ticket and client information.
- This architecture ensures the application is responsive, scalable, and easy to maintain, making it a practical tool for real-world event management scenarios.

Skills

Programming languages:

- C/C++
- Java
- C#
- Python
- SQL

Frameworks:

- Qt
- JavaFX

Languages:

- Strong verbal and written communication skills in English

About me

I am an organized and dedicated individual who thrives in team environments. I value collaboration and actively listen to others' opinions and ideas.

In terms of personal interests, I have a strong passion for mathematics and physics, which I continuously study in my spare time. To maintain my physical well-being, I enjoy playing football and basketball.