Alex **Sierra**

COMPUTER SCIENCE STUDENT · MOBILE DEVELOPER

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"Simplicity is a prerequisite for reliability."
Edsger W. Dijkstra

Presentation

I am a student of Computer Science with experience as a teaching assistant at my university and mobile development. My passion for programming and software development has led me to acquire a deep understanding in these areas and to participate in competitive programming contests such as the ACM-ICPC. With analytical and problem-solving abilities, I enjoy tackling complex challenges and finding innovative solutions.

Experience

University of Havana   *La Habana, Teaching*
DATA STRUCTURE AND ALGORITHMS PROFESSOR   *Apr. 2023 - Present*

- Assisted students in understanding complex topics such as **data structures** and **algorithms**.
- Provided detailed feedback and code reviews, helping students improve their coding and problem-solving skills.
- Designed practical exercises and examples to reinforce theoretical concepts using **C++** and **Python**.
- Developed communication and mentorship skills by explaining abstract concepts clearly and adapting to individual learning needs.

Bussines Seed   *CDMX, Flutter*
SENIOR MOBILE DEVELOPER   *Aug. 2023 - Present*

- Developed and maintained high-quality mobile applications for Android and iOS platforms using **Flutter**.
- Led the integration of third-party APIs and optimized app performance to enhance user experience.
- Collaborated with cross-functional teams to design and implement innovative mobile features aligned with business goals.

Education

University of Havana   *La Habana, Cuba*
B.S. IN COMPUTER SCIENCE   *Nov. 2021 - Present*

- Pursuing a degree, aiming for summa cum laude honors.

Awards

ICPC Contestant, During my bachelor studies, I actively participated in competitive programming contests, including the ACM-ICPC. Represented my university in caribbean regional competitions and, in 2023 my team obtained a silver medal in the caribbean finals. *2021 - 2024*

Math Olympian, During my undergraduate studies I competed in the subject of mathematics, being part of the national preselection on 3 occasions. In 2019 I participated in Ibero-American Mathematics Olympiad, Guanajato, obtaining a bronze medal after two days of competitions against delegations from Ibero-America. *2017 - 2019*

Projects

Tweet-Py   *GitHub*
CHORD ARCHITECT   *2024*

- Designed and implemented a distributed system using the Chord protocol to manage and locate data in a decentralized network.
- Developed efficient routing and data partitioning logic, ensuring scalability and fault tolerance.

Codeforces Tag Predictor   *GitHub*
MACHINE LEARNING ENGINEER   *2024*

- Implemented a Transformer-based model to predict tags for Codeforces problems as part of a machine learning course project.
- Trained the model with a comprehensive dataset, optimizing accuracy and reducing loss with advanced regularization techniques.
- Documented the entire training and prediction pipeline to ensure reproducibility of the experiment.

Hulk Compiler
GitHub

Compiler Engineer
2024

- Built a full compiler covering lexical, syntactic, and semantic analysis as part of the Compiler Theory course.
- Implemented intermediate code generation.
- Facilitated learning of core compiler concepts with detailed documentation and practical examples.

Football Simulator
GitHub

Game Simulator Developer
2024

- Designed a football simulator covering team management, match tactics, and realistic gameplay simulation.
- Implemented a dynamic player performance system based on attributes and real-time decisions.
- Developed an intuitive user interface to enhance the gaming experience.

Travel Agency App
GitHub

Backend Developer
2023

- Developed a backend application to manage travel agencies, enabling the handling of clients, bookings, and destinations.
- Designed a RESTful API using clean architecture principles, ensuring scalability and ease of integration with frontends.
- Integrated an authentication system and role management to ensure security.