Mexico City, Mexico

Oscar David **Hernández Rodríguez**

COMPUTER SCIENCE STUDENT · ASPIRING AWS INTERN

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"Curious, rigorous and eager to build software that is correct, efficient, and impactful."

Experience

UNAM – Software Engineering Course   *Mexico City, Mexico*

TEAM LEADER – WEB APPLICATION PROJECT   *Aug. 2023 – Nov. 2023*

- Led a team of 5 students to build a solid academic social network using **Django** and **PostgreSQL**.
- Designed architecture and managed sprints, code reviews, and documentation in an agile environment.
- Collaborated daily using GitHub to ensure feature integration and delivery in multiple iterations.

UNAM – Compilers Course   *Mexico City, Mexico*

COMPILER DEVELOPER   *Feb. 2023 – Jun. 2023*

- Designed and implemented a custom compiler in **Java**, for an object-oriented language created at UNAM.
- Handled lexical, syntactic, and semantic analysis, using formal grammars and OOP principles.

UNAM   *Mexico City, Mexico*

TEACHING ASSISTANT – CONCURRENT COMPUTING   *Feb. 2024 – Present*

- Created study materials and slides to support lectures on parallelism and synchronization.
- Reviewed student assignments and theoretical problems in **C**, **Java**, and **Swift**.

Education

National Autonomous University of Mexico (UNAM)   *Mexico City, Mexico*

B.S. IN COMPUTER SCIENCE   *Aug. 2020 – Expected Jun. 2026*

- Currently enrolled at the Faculty of Sciences with focus on software engineering, formal reasoning, and system design.
- Special interest in distributed systems, probability, concurrent programming, and compilers.

Projects

2023	**Django & PostgreSQL**, Built a social network web application as team leader in a 4-month academic project. Applied agile delivery, user-centered design, and Git-based collaboration.	*Academic Social Network*
2023	**Java & Compiler Theory**, Developed a full compiler for a custom object-oriented language defined by UNAM's CS faculty, applying lexical, syntactic, and semantic analysis.	*Custom Language Compiler*
2023	**Python & YOLOv5**, Implemented a real-time object detection system as part of an AI course, optimized for low-resource environments.	*AI Object Detection*
2024	**C, Java & Swift**, Supported students as a teaching assistant in Concurrent Programming. Worked with multithreading, synchronization, and shared memory.	*Concurrent Systems – TA*

Skills

Programming	Python, Java, C, C++, SQL, Bash, Swift, JavaScript
Databases & Query Languages	PL/SQL, MySQL, SQLite, Query optimization, Transactional integrity
Software Engineering Tools	Git, GitHub, Jenkins, CI/CD, Bitbucket, Linux, Shell scripting, VSCode
Systems & Architecture	Object-Oriented Design, Concurrent Programming, Multithreading, Systems Programming, Software Deployme
Practices	Agile Development, Unit Testing, DevOps basics, Change Management Policies
Languages	Spanish (Native), English (TOEFL C1)

Cover Letter

Dear Hiring Committee,

My name is **Oscar David Hernández Rodríguez**, and I am a Computer Science student at the National Autonomous University of Mexico (UNAM), currently entering the final year of my undergraduate program. I am writing to express my strong interest in the **Technology - Cash Equities Intern** position at J.P. Morgan in Mexico City.

Throughout my academic and project experience, I have developed a solid foundation in software development, with particular focus on databases (PL/SQL, MySQL), scripting (Python, Bash), and basic deployment using tools like Git and Jenkins. I have also worked on low-level programming, concurrent systems, and object-oriented applications, which has helped me understand how to build and maintain reliable codebases.

I'm especially interested in this role because it connects my programming skills with real systems used in the financial world. The idea of helping to maintain and improve the tools that allow trading to work reliably in Mexico and globally is something concrete and exciting to me. I want to keep learning about how large systems are built and maintained in practice.

I am fluent in English and Spanish, and I believe I can contribute both technically and collaboratively to your team. Thank you for your consideration.