

# GUSTAVO ADOLFO ARREOLA ROJAS

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## PROFILE

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I'm a **Computer Systems Engineering** student about to graduate. I've developed programmes and applications in languages like C, C++, Python, Kotlin and Dart, and professionally work with Django, AWS, Docker, and Flutter in production environments. Now I want to continue improving these skills, gain more experience, and share my knowledge in new professional contexts.

## WORK EXPERIENCE

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### Grupo BECM

June 2025 - January 2026

Django/Python with AWS infrastructure.

- Implementation of banking API integrations including Bridge, Arcus, and STP (Sistema de Transferencias y Pagos) for payment processing and real-time balance updates via webhooks.
- Enhanced user experience by redesigning email notifications and PDF receipt generation, improving clarity and professional presentation of financial documents.
- Security implementation using JWT authentication with token-based login, role management, and token blacklisting.
- Database optimization and migration to AWS RDS, improving query performance and system reliability.
- Production deployment and maintenance on AWS EC2 instances with SSL certificates, Nginx reverse proxy, domain configuration via GoDaddy, and Site-to-Site VPN setup for secure banking connections."

## SCHOOL PROJECTS

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### TuristeandoAndo

August 2023 - January 2024

Mobile Application to promote tourism in Mexico (Developed in Dart using the Flutter framework and Firebase as DataBase).

- Use of Google Maps APIs (places, routes, map, search, etc.).
- Handle of request data APIs, conversion of JSON response to malleable text to present only the necessary information.
- Navigation between some screens and use of asynchronous programming for the time answer request.
- Develop of project documentation (Use cases, UML Diagrams, screen design).

### Compiler for Programming Language

August 2023 - January 2024

Python-based with finite automata and recursive descent parsing.

- Lexical analyzer using finite state automata for token recognition (numbers, strings, identifiers, keywords, operators, comments).
- Syntax analyzer with Recursive Descent Parser for grammatical validation and error detection.
- Abstract Syntax Tree (AST) construction with expression/statement nodes for code representation.
- Language support for variables, functions, control structures (if-else, loops), and logical/arithmetic operations.
- Complete documentation including formal grammar, state diagrams, and test cases.

SKILLS

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Web Development (HTML, CSS, JS, TS)	Databases (Firebase, Mongo DB)	Agile Methodologies (SCRUM)
Mobile Development (Dart, Kotlin)	Teamwork	Programming (C, Python, C++) Frameworks (Django, Flutter)

EDUCATION

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<b>INSTITUTO POLITECNICO NACIONAL (IPN)</b> <b>Escuela Superior de Computo (ESCOM)</b> Corresponds to my principal university formation. <b>Relevant courses:</b> Analyze and Design of Systems, Compilers, Programming Fundamentals, Algorithms and Data Structures, Web App Development.	<b>February 2021 - June 2026</b>
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<b>AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY</b> <b>Faculty of Computer Science</b> Corresponds to my international formation during one semester of academic mobility in Europe, specifically in Krakow, Poland. <b>Relevant courses:</b> Mobile App Development, Cryptography and Security, Programming in JavaScript, Cloud Computing.	<b>September 2024 - March 2025</b>
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ADDITIONAL INFORMATION

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- Badges:
- Google Cloud Computing Foundations
  - AWS Academy Cloud Developing
  - AWS Academy Cloud Architecting