

Gabriel Rosendo Fuente Escalante

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📖 EDUCATION

Instituto Tecnológico de Estudios Superiores de Monterrey

Mexico City, Mexico

Bachelor's degree in Computer Science and Technology

Oct. 2024 - Jun. 2028

- **Cumulative GPA:** 4.0/4.0
- **Relevant Coursework:** Data Structures and Algorithms, Linear Algebra, Differential Equations, Programming.
- **Extracurricular:** ICPC contestant aspiring to the regional phase.

Instituto Educativo Olinca

Mexico City, Mexico

International Baccalaureate (Awarded Bilingual Diploma)

Oct. 2022 - Jun. 2024

- **Cumulative Score:** 31/45
- **Relevant Coursework:** HL Mathematics Applications and Interpretations, Computational Modeling of Ecology (SL Biology Internal Assessment), Statistical and Stochastic Modeling (Extended Essay)

🏠 EXPERIENCE

HackMX VI - ITESM

Oct. 2024

Completed Google challenge, involving artificial intelligence

State of Mexico, Mexico

- Planned solution to protect the elderly against cybernetic threats while navigating in the web, evaluating pages with an AI system, to detect potential fraud and phishing attacks.
- Helped to develop a backend with Python and FastAPI, which integrated *Omniparser*, an AI screen parser, transforming web snapshots into prompts feed to ChatGPT, classifying pages into safe or unsafe, retrieving detailed feedback to the user through a browser extension.

Congreso Estudiantil de Investigación del SI - UNAM, DGIRE

Apr. 2024

Third-stage (finalist) delegate at science congress

Mexico City, Mexico

- Research about raycasting as a rendering technique, used in early pseudo-three-dimensional video games, and how it is implemented.
- Designed and developed a graphic engine in TypeScript, utilizing WebGL and GLSL (GL Shading Language) which renders scenes and simulates reflections.

The Maker Challenge Programme - Imperial College London

Dec. 2021 - Feb. 2022

Awarded third place at STEM programme

London, England

- Participated at a 11-week STEM programme, learning about engineering practices, including 3d-printing, arduino and programming.
- Engineered a prototype of local-multiplayer game utilizing JavaScript and PHP. It was a remastered version of *snake* that intended using long-polling as a technique to synchronize players' inputs. Learned about the Blocking I/O, and had to search for new techniques.

📁 PROJECTS

GamePort (private) | Node.js, Typescript, Docker, Express, MongoDB, SocketIO

Jun. 2023 - Now

- Currently developing a vertically scalable backend for room-based online multiplayer games. The project consists on three deployable units: the "central server" handles core logistic such as users, sessions and monitors available game servers for player allocation; the "game server" backend orchestrates game matches in parallel while keeps communication among clients and game threads; the "application" is the frontend logic and user-interface.

Mirrorware | Typescript, WebGL, GLSL

Jan. 2023 - Now

- Currently developing graphic engine in TypeScript with WebGL, utilizing shaders and linear algebra to render pseudo-3d scenes with a technique know as raycasting. The engine works with axis-aligned walls and cylinders; it simulates mirrors using recursive collision tests for each ray.

⚙️ TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, PHP, C++, SQL, GLSL, Java

Frameworks/Libraries: Node.js, Express, SocketIO, Angular, Wordpress, NumPy, Bootstrap, Flask

Developer Tools: Git, Linux, SSH, Docker, npm, pip, nmap

Testing Tools: Jest, Postman, Supertest, Thunder Client

Others: HTML, CSS, MongoDB, Apache HTTP Server, VirtualBox, Webpack, MatLab, Plaid API, web-pentesting

Spoken Languages: Spanish (Native), English (Cambridge C1), French (self-perceived A1)