Francisco Colmenero

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EDUCATION

University of Illinois at Chicago (UIC) *Aug 2023 - May 2025*
Bachelor of Science in Computer Science - Summa Cum Laude *GPA: 4.0/4.0*
Coursework: Database Systems, Software Design, Data Structures, Computer Algorithms, Compiler Design, Artificial Intelligence, Machine Learning, User Interface Design, and Systems Programming

Joliet Junior College (JJC) *Aug 2021 - May 2023*
Associate of Science *GPA: 3.94/4.0*

SKILLS

Programming Languages: C \ C++ \ Java \ Python \ SQL \ JavaScript \ F# \ HTML \ CSS

Frameworks & Tools: Next.js \ React \ .NET \ Android \ STM32CubeIDE \ Tailwind CSS \ JavaFX \ scikit-learn \ Pandas \ NumPy \ PostgreSQL \ SQLite \ GCC \ Make \ Git

PROJECTS

VantageForm.com – Full-Stack ML Web App | Next.js \ Python *June - Present*

- Built a responsive and modern front end using Next.js and Tailwind, with dynamic routing.
- Developed a scalable back end with Node.js, managing routing, server logic, and user interaction.
- Designed and implemented a PostgreSQL database to store user data, player data, and metadata.
- Developing Python-based API's to integrate machine learning model projections on AWS.

Taxi Rental Management System | Python \ PostgreSQL *May 2025*

- Developed a command-line rental system with an integrated PostgreSQL database.
- Implemented manager manipulation, rental booking, reviews, and queries on relational tables.

Server-Client Based Three Card Poker | Java \ JavaFX *January 2024*

- Developed a Java-based Three Card Poker game using a server-client architecture, implementing sockets and multithreading to support multiple simultaneous client games.

Custom Language Compiler (Bluejay) | C \ Flex \ Bison \ MIPS *December 2024*

- Created a compiler in C for a custom language implementing lexical analysis, parsing, abstract syntax trees, IR generation, and a MIPS-based backend.

TECHNICAL EXPERIENCE

Society of Automotive Engineers (SAE), UIC, Chicago IL *Aug 2023 - Present*

- Designed a pedal sensor system using STM32 microcontrollers to process throttle input.
- Implemented oversampling, filtering, and safety logic for reliable analog signal processing.
- Supported development of UIC's first electric Baja and ongoing electric F1 vehicle integration.

WORK EXPERIENCE

Undergraduate Research, Department of Physics, Joliet Junior College *June – July 2023*

- Collaborated in the research of Acoustics in Physics focused on violin cavity modes.
- Used CAD software to build 3-D printed stands and map out violin's ribs for cutting.
- Gathered large data sets for analysis via VIA'S PCB system, Audacity, and Google Workspace.