

EMILIO CHONG DÁVILA

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EDUCATION

University of Puerto Rico | College of Engineering

Bachelors of Science in Computer Engineering

GPA: 3.55

Mayagüez, Puerto Rico

May 2028

The University of Georgia | College of Engineering

National Exchange Student

Athens, Georgia

August 2025 - Present

RELEVANT COURSEWORK

Object-Oriented Programming; Discrete Mathematics; Linear Algebra; Physics II; Graphic Design; Calculus III.

WORK EXPERIENCE

Compound Inundation Team for Resilient Applications (CITRA)

Athens, Georgia

Research Assistant

August 2025 - Present

- Assisted in the development of a compound flood model that couples riverine and coastal flood processes, enabling flood analysis, enhancing predictive capabilities, and supporting data driven decisions for infrastructure and coastal protection projects.
- Created a two-dimensional wetting and drying algorithm that classified node status in numerical meshes based on specific conditions such as: rainfall intensity, water depths, and flow velocity, enhancing computational efficiency and physical realism.
- Fostered cross-disciplinary communication within the CITRA Lab Team, ensuring research goals were translated into the modeling framework through collaboration on model development, weekly meetings, data checks, and technical documentation.

PROJECT EXPERIENCE

Snake Game - Object-Oriented Programming Project

Mayagüez, Puerto Rico

Project Member

April 2025 - May 2025

- Refactored and enhanced a broken C++ game using the main object-oriented programming principles: abstraction, inheritance, polymorphism, and encapsulation, to improve runtime performance, maintainability, and code organization:
 - Implemented different gameplay features using openFrameworks, a C++ multimedia asset management toolkit.
 - Improved core game mechanics by modifying sprite rendering logic, integrating dynamic scoring, customizing snake body and head colors, and implementing in-game debug keys to streamline testing for developers.
 - Integrated new classes for obstacles by designing a recursive collision detection algorithm.
 - Utilized a state machine to control transitions and maintain consistent game state flow.

SKILLS

Programming Languages and Software: C++, C, Fortran, MATLAB, AutoCAD, Git

Additional Skills: Debugging, Troubleshooting Large Codebases, Project Time Management, Adaptability, Fluent English and Spanish.

HOBBIES & INTERESTS

Environmental Data Analysis, Alternative Music, Landscape Photography, Peer Mentorship, STEM Tutoring, International Travel