



JERY RODRÍGUEZ

SOFTWARE & AI ENGINEER
COMPUTER SCIENCE STUDENT
& MATH LOVER

CONTACT

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SKILLS

LANGUAGES

Python, C, C++, C#, Java, JavaScript, TypeScript, Haskell, Prolog & Rust.

FRAMEWORKS & TOOLS

React, Node.js, .NET, Unity, PyTorch, Git, GitLab, GitHub, Linux, FastAPI, Docker, Scikit-learn, Kubernetes, Pandas, NumPy, Matplotlib, Seaborn, LaTeX, PyCharm, Photoshop, Illustrator & VS Code.

SPECIALIZATIONS

- Full-Stack Development
- Applied Mathematics
- UI Design
- Game development
- Compiler Design
- Mathematical Modeling & Optimization

LANGUAGES

- Spanish - Native
- English - B2 (advancing toward C1)



EXECUTIVE SUMMARY

I enjoy working with applied mathematics and bringing that analytical mindset into computational development. I work closely with teams to ship scalable applications, strengthen backend systems, and craft visual designs that elevate the overall user experience. Right now I'm deepening my work in artificial-intelligence architectures and advanced neural-network design, focusing on their optimization, training, and deployment in real-world environments.



CORE EXPERIENCE

AI RESEARCH & DEVELOPMENT

MATCOM, UH

- Developed an autonomous Hex-playing agent that mixes Minimax with alpha-beta pruning and Monte Carlo Tree Search, designing a multi-signal heuristic with a Genetic Algorithm that tunes its evaluation weights through competitive self-play.
- Contributed to the validation of CecilA (Cuban National AI) training datasets.
- Designed and Built a dynamic neural network with adaptive retraining capabilities, enabling continuous learning and iterative model refinement.

BACKEND DEVELOPMENT

MATCOM, UH & INDEPENDENT

- Developed web applications in collaboration with cross-functional teams, specializing in business logic and database development using TypeORM with MySQL.

FRONTEND DEVELOPMENT

INDEPENDENT & DEV COMPANIES

- Built responsive interfaces for several businesses in collaboration with development teams.
- Designed and built UI interfaces for desktop applications on both Windows and Linux platforms, embedding core business logic.

COMPUTER ARCHITECTURE

MATCOM, UH

- Designed and built a functional 32-bit microprocessor architecture in Logisim with an integrated cache system, manipulating low-level language: assembler.

APPLIED MATHEMATICS

INDEPENDENT

- Redefined classical optimization methods — Newton's Method and Steepest Descent — specifically for quadratic models.
- Worked with numerical methods, addressing precision issues and managing numerical errors.
- Worked on simulation problems, developing a discrete-event population model with probabilistic life events and demographic dynamics.
- Developed statistical predictive models to analyze academic dropout and success, combining descriptive analysis, visualization, clustering, and classification techniques.
- Performed exploratory and predictive analysis on social media data, identifying patterns, engagement trends.

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- Designed and implemented a vector-space model applied to psychology, enabling the comparison of individuals by quantifying how similar their personalities are across multiple psychological variables.
- Designed and implemented a vector-space search model based on the Generalized Vector Space Model (GVSM), supported by lightweight indexing structures (Patricia Trie and co-occurrence index).

● GAME DEVELOPMENT

MATCOM, UH

- Developed a game in Unity and built it for Windows. It's a Strategy card game inspired by the Game of Thrones universe, featuring a custom interpreter that transforms code into playable.

● VISUAL DESIGN

INDEPENDENT

- Created numerous visual designs, logos, and prototypes for businesses and organizations across different industries. Specialized in Photoshop, delivering professional and versatile results in design projects.



EDUCATION

B.S. IN COMPUTER SCIENCE

University of Havana (MATCOM)

Academic Focus: Artificial Intelligence, Data Structures, Algorithms, Cryptography, Distributed Systems, Compilers, Software Engineering, Simulation, Applied Mathematics, Databases & Computer Architecture.

★ **DISTINCTION:** Software Engineering, Applied Mathematics, Data Structures & Algorithms.



AVAILABILITY & RELOCATION



IMMEDIATE: Available for Full-Stack and other technical roles.



FUTURE: Open to global relocation.



MISSION: I aim to keep learning and expanding my abilities every day. I strive to collaborate with multidisciplinary teams to build meaningful and impactful solutions. I am committed to creating and innovating, turning ideas into real products that make a difference.