

NICOLAS QUIJANO

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C/C++, x86 Assembly, Embedded Systems, Typescript

EXPERIENCE

Zeno Emara

Dart/Flutter Intern

Jun 2025 - August 2025

- Responsible for designing an application for employees to efficiently track and log both existing and new motorcycles
- Communicated frequently with head of Software Development
- Application is currently in use by Zeno service members and employees

Coding with Nico

Owner and Instructor

September 2022 - Present

- Manage own business and teach young children programming
- Instruct students in programming Scratch and Arduino (C/C++)
- Explain the basics of circuitry and create projects using Arduino boards
- Manage schedules and share my enthusiasm and passion for coding with the children
- Collaborate with parents and students on their progress

TechKnowHow Summer Camps

Assistant Instructor

June 2022 - July 2024

- Educate and instruct children in a technology-oriented summer camp
- Teach *Scratch* Programming and work collaboratively with other instructors/counselors to develop daily activities

PROJECT LINKS

<https://github.com/FISHARMNIC>

<https://www.linkedin.com/in/nicol%C3%A1s-quijano-124657272/>

STRENGTHS

C and C++ (5 years of experience)

- In-depth knowledge of pointers, structures, and unions
- Experience with ArduinoC in several personal projects
- Solid experience with C++ templates, concepts, and classes

x86 Assembly Language (3 years of experience)

- Strong knowledge of x86 assembly
- Created compilers from scratch that convert high-level code directly into efficient assembly code
- Written libraries in assembly for custom programming language, including direct disk I/O, along with PIC setup for PS/2 mouse and keyboard interrupts

JavaScript/TypeScript (5 years of experience)

- Have worked on several projects, including compilers, applications, and websites
- Experience in browser JavaScript, NodeJS, async/await, and ESTree

Logic Design and Circuits (2 years)

- Experienced with Arduinos and ESP-family devices
- Designed discrete CPUs capable of running code
- Understanding of analog and digital components and circuits

3D Design and Rendering

- Experienced in using Blender 3-D computer graphics, rendering, shaders, and animation
- Design 3D printed parts in TinkerCAD

INTERESTS

Rock Climbing

- Avid indoor and outdoor climber for over six years
- *Touchstone competitive climbing team* member for 2 years
 - Competed at the state level in USAC competitions

Teaching

- Enjoy teaching math and programming to both children and adults
- Volunteered as a tutor in high school, currently teach programming on Zoom during the weekends

EDUCATION

Undergraduate

University of Colorado Boulder
Electrical and Computer Engineering
First-year GPA: 4.0

Boulder, Colorado
Fall 2024 - Fall 2028

Highschool

Archbishop Mitty High School
National Honor Society
Graduated with a 4.2 GPA
San Jose, California
Summer 2020 - Summer 2024

AWARDS

Synopsys Science Fair

Self-Stabilizing Spoon for Hand Tremors
April 2020

- Honorable mention in the Engineering and Physical Sciences category at the Synopsys Engineering Fair

Haptic Glove for the Visually Impaired
April 2019

- Kerry Veesta Award for Using Engineering to Benefit Society
- Honorable Mention in the Engineering and Physical Sciences Category at the Synopsys Engineering Fair
- Certificate of Recognition for Demonstrating Creative Innovation and Academic Excellence in the Sciences

LANGUAGES

Spanish

Full proficiency

English

Full proficiency

PERSONAL PROJECTS

Construct: Static JavaScript Compiler (C++, TS, JS)

<https://github.com/FISHARMNIC/construct>
July 2025 - Present

Currently designing and implementing a fully static JavaScript compiler. Its goal is to not only provide a faster runtime for browser code, but to serve as a proof of concept for how dynamic languages like JavaScript and Python can be compiled without the need for JIT or an interpreted runtime.

Working Features:

- Converts JavaScript into a readable C++ file that can then be compiled for the local machine
- Functions, variables, arrays
- If/else if/else control flow
- While loops
- Math with proper JS type coercion that follows the ECMAScript standard
- Optimized type system with static and dynamic types evaluated at compile time
- Dynamic variable retyping between anything

Nico8: 8-bit Discrete CPU (Logisim Evolution)

<https://github.com/FISHARMNIC/CPU>
April 2023 - Present

Created a working, simulated 8-bit CPU using *Logisim Evolution*. The CPU has a large instruction set that includes writing and reading to and from memory, registers, and immediate values. It also supports the four main mathematical functions, interrupts, I/O ports, and conditional jumping.

Working Features:

- 1024 bytes of RAM with memory segmentation
- 16-bit register pairs for larger math calculations
- Interrupts
 - Can be masked/unmasked
 - Uses an interrupt vector table
 - Read from different ports

Codelet: C Visualizer + Debugger (NodeJS, C, WASM)

<https://github.com/FISHARMNIC/codelet>
May 2025

Created a browser app that allows users to play around with C and visualize memory updates in real time. Lets users step manually through each line and set breakpoints. Features several built-in functions that allow users to switch memory display types and add views to memory chunks.

FEATURED

Maker Tynker Programming for Kids Website (2016)

How is Learning to Code like Learning a New Language? Ask Nico!

<https://www.tynker.com/blog/how-is-learning-to-code-like-learning-a-new-language-ask-nico>

Sparkfun Website (2010)

Meet Nicolas - Possibly the Youngest SparkFun Customer

<https://web.archive.org/web/20200810122530/https://www.sparkfun.com/news/409>