## **Summary**

CS undergrad at Charles University (GPA  $1.04 \approx 3.9$  US). Mexican math-olympian (gold at nationals, top-8 in IMO TSTs) still passionate about mathematics; now deep into functional programming, proof assistants, & formal methods; teaches at international math camps.

### Education

Programming experience.

**Proficient:** Haskell, Python, LATEX, C#

**Intermediate:** C/C++, Lean

Basic: Prolog

Charles University, BSc Computer Science (math-heavy track) GPA: 1.04 / 4 (best = 1)

October 2023 - June 2026 (expected)

**Relevant Courses:** Set Theory, Probability and Statistics 1, Formal Mathematics and Proof Assistants, Non-Procedural Programming, Algebra 1 & 2, Propositional and Predicate Logic, Combinatorics and Graph Theory 1, Automata and Grammars, Algorithms and Data Structures 1 & 2, Computer Systems, Programming 1 & 2, Programming in C++, Linear Algebra 1 & 2, Mathematical Analysis 1 & 2

Languages spoken

Spanish (native), English (fluent – studied at school for at least 9 years)

Test scores.....

**GRE**: Verbal: 165; Quant: 166. Taken on April 30, 2022.

**SAT**: Total: 1570; Math: 800; EVBRW: 770. Taken on December 3, 2022.

Work and selected internships

Qualia Research Institute: Independent contractor; June 2023 to August 2023.

Mercor: Math expert; October 2024 to present.

**Teaching** 

Tutor at Maths Beyond Limits 2024:

September 2024

Gave a three-day set of lectures on automata theory and formal grammars.

Tutor at MBL Balkans 2025:

April 2025

Gave a three-day set of lectures on propositional and predicate logic.

Projects (available on GitHub)

Conway's Game of Life simulator using Tkinter:

January 2024

Written in Python as a semester project for the Programming 1 class at Charles University. Allows for simulation in 'infinite' grids.

## **Arbitrary-Precision Symbolic Calculator:**

June 2024

Written in C# as a semester project for the Programming 2 class at Charles University. Allows for computations with rationals, certain elements of finite fields as well as matrices.

#### Parser and Interpreter for a Small Haskell-like Functional Language:

June 2025

Written in Haskell as a semester project for the Non-Procedural Programming class; will extend to an exploration of tactic-based programming as an Individual Software Project for university.

# Selected fellowships and awards

**Atlas Fellowship**: Was selected as Atlas fellow. Received scholarship and attended summer program. Awarded May 2022.

Mexican Mathematical Olympiad (OMM) 2021: Gold medal, awarded November 2021.

Mexican Mathematical Olympiad (OMM) 2022: Gold medal, awarded November 2022.

Mexico IMO TSTs: 2022 and 2023, 8th place (best result; top 6 make IMO team)

Camps attended.

Winter Applied Rationality Program (WARP) 2022:

March 2022

**Atlas Fellowship Summer Program:** 

June 2022

European Summer Program on Rationality (ESPR) 2022:

August 2022

Maths Beyond Limits (MBL) 2022:

September 2022

Gave a talk on Toki Pona.

Maths Beyond Limits (MBL) Balkans 2023:

March 2023

Gave a talk on Conway's Game of Life.

Maths Beyond Limits (MBL) 2023:

September 2023

Gave a talk on meditation.

Farum Mathcamp 2024:

February 2024

Gave a talk on the mathematics of the game of Hex.