

Matteo Durante

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Summary

- Passionate about mathematics, performance-aware programming and low-level systems
- Experienced in developing scalable web services and applications at Amazon
- Seeking roles focused on performance-critical systems in Rust

Work Experience

Software Development Engineer L4-L5

Amazon

2022 — Present

Madrid, Spain

- Developed services managing and fixing author data with AWS, DynamoDB, SQL, Java and TypeScript
- Increased author-book linking coverage from 88% to 95+% with 99+% precision (up from 97%)
- Improved performance of author web services by 1200x through optimization and architectural changes
- Implemented features for the Kindle iOS Library including DeleteFromLibrary using Obj-C and Swift
- Developed and integrated C++ cross-surface business logic framework into Kindle iOS

Math Coach

Associazione Subalpina Mathesis

2015 — 2017

Turin, Italy

- Coached prospective participants of the Italian Math Olympics
- Led a no-name school team to the national semi-finals

Education

ALGANT Programme

MSc Mathematics

Leiden, NL (M1) / Regensburg, DE (M2)

2018 — 2022

- Distinction, 1.1 | Focus: Algebra and related fields
- Thesis: [Localizations of Models of Type Theory](#) (Supervisor: [Hoang-Kim Nguyen](#))

University of Turin

BSc Mathematics

Turin, Italy

2015 — 2018

- 110 cum Laude | Focus: Algebra, Analysis, Geometry, Logic, Probability
- Thesis: From Algebraic Varieties to Schemes (Supervisor: [Cinzia Casagrande](#))

Skills

Programming (professional): C++, Java, Rust

Other languages: Haskell, Kotlin, LaTeX, Obj-C, Python, Shell, SQL, Swift, TypeScript

Tools: Git, perf, Shell, Tmux, Unison, Vim et al

Other: Algorithms, AWS, Data Structures, Linux, FP, OOP

Quantitative: Algebra (Algebraic Geometry, Number Theory, and more), Analysis (Complex Analysis, Measure Theory, ODEs, Differential Geometry), Game Theory, Graph Theory, Homotopical Mathematics (specialization), Mathematical Logic, Microeconomics, Numerical Analysis, Probability Theory, Type Theory

Languages: English (C1, IELTS 8.0), Italian (native), Spanish (B2, currently studying)

Projects

- [Polymorphism in C++ and Rust](#): comparing virtual functions, final, and CRTP with benchmarks
- [sim8086](#): an 8086 processor simulator developed in Rust
- [rtnya](#): a C++ ray tracing software
- [Notes on Monad Theory](#)

Awards

- [1200+ LeetCode problems solved](#) (top 0.5% globally)
- Collegio Carlo Alberto's scholarship 2016-2018
- Bocconi's Math Games (national level): 22nd placement, 2017
- Diderot Project math competition (Alpha Class): 2nd (individual) and 3rd (team), 2016
- Italian Math Olympics finals team placements: 12th (2014) and 7th (2015)