

Nelson Vides Luzardo

SOFTWARE ENGINEER

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“Getting out of my comfort zone.”

Skills

Programming C++, Haskell, Standard ML, C#, Visual Basic & VBA, LaTeX
Tooling *git*, Visual C++, Jenkins, NAnt, GitHub, BitBucket, Jira, GCC, AVR
Languages Spanish, English, Polish

Summary

I'm a young and ambitious guy, trained mathematician, who is deeply passionate about computers. I believe that *if you're not growing, you're dying*; as such, I strive every day to reach further, it's a very important trait to me. My mathematical mindset has is my most interesting asset: finding correct solutions to any facing problem is perhaps my biggest hobby. I'm deeply rooted into patterns and abstraction, I regard the concept of refactoring as a figure of speech where repetition is abstracted away in a pattern that models the problem at hand; it's a purely mathematical habit that will keep a codebase crystal clear. I believe in the models that mathematics give to any given language and design, from how Type Theory can model data and programs, to how Categories can model a software architecture. It's yet another purely mathematical habit I devote a lot of my time, that I believe will keep programs correct, maintainable and safe.

Experience

Motorola Solutions Poland

SOFTWARE DEVELOPER

Kraków, Poland

June 2018 - PRESENT

- Development of the CD & CI platforms: whole integration of Jenkins, git, NAnt, Jira, BitBucket, and Artifactory.
- Maintenance and refactoring of high security telecommunications software, reducing unbearable lengthiness of functions and exchanging long switch statements by polymorphism, separation of concerns, and good design patterns.
- Promotion of modern C++11 & C++14 standards. Promotion of generic programming.
- Environments: Scrum-SAFE methodology.

IBM BTO Services Poland

AUTOMATION PROCESS DEVELOPER

Kraków, Poland

Nov. 2017 - May 2018

- Development of automation tools for the finance sector.
- Reassessment of the team practices and quality standards.
 - Exposed ERP APIs by C++/COM compliant binaries for automation purposes, so other developers could take advantage from different languages and frameworks.
 - Implemented C++ Command-Line applications using cutting-edge toolchains (Visual C++ 17, GCC 6.4) as a wrapper around Citrix and other streaming services for a more stable, deterministic and easy to use networks.
 - Developed code standards, promoted design patterns and a Test-Driven Design approach.

IBM BTO Services Poland

ACCOUNTANT AUTOMATION

Kraków, Poland

Feb. 2017 - Oct. 2017

- Responsible for the Accounts Payable department of our client's Spanish section.
- Developing scripting Automation tools using VBA, VBS and Python to improve efficiency of the reporting processes saving up to 8h a week per country cluster.

Extracurricular Activity

Programming Languages Theory

MENTOR STAFF IN [COURSERA](#)

Coursera

Jan 2018 - PRESENT

- Studied Type Systems, Closures, Abstract Syntax Trees, Language implementations, Type Safety, Introduction to λ -Calculus, a comparison between the Object-Oriented Paradigm vs. the Functional Paradigm.
 - Implemented a REPL in a Lisp language for a theoretical simply typed language with closures.
 - Implemented a Type Inference machine for Standard ML, in Standard ML.
 - Implemented a Tetris game in Ruby using an Object-Oriented design.
- Currently giving support to new students, participating in the forums and writing articles to promote curiosity and participation.

Embedded Projects

EXPERIMENTAL DEVELOPER

home, Kraków, Poland

Dec. 2017 - June 2018

- Initial idea to develop a hierarchy network of controllers at home to monitor and interact weather conditions, pollution levels, ambient light environment, GSM radio messaging, scheduled events.
- Hands-on involvement into Operating System's issues like multitasking, interrupt services, and resource management. Implemented many basic elements of an OS like Atomics, Mutexes, or Schedulers, in a modern C++ generic fashion.
- UI design patterns and models of communication between processes related to hardware resources: screen and keyboard.

Other Materials

STUDENT

home, Kraków, Poland

- Open Source Contributions: [Rubberduck](#)'s VBA project on GitHub: Design Patterns, Language Analysis, Test-Driven Development, CD&CI.
- Plethora of online courses in platforms like Coursera or Edx.
- Daily reader of ACM research, with an special interest in Programming Languages Theory.
- Daily endeavour to Type Theory studies, Language Semantics, λ -Calculus and other calculi, Category Theory.

Formal Education

Universidad Complutense de Madrid

STUDIES IN PURE AND ABSTRACT MATHEMATICS

Madrid, Spain

Sept. 2010 - Jan. 2015

- Honour Grade in General Topology. Mentions of Excellence in Algebra, Geometry and Set Theory.
- The habits of the mathematician: it's not true until you prove it, there-is-always-a-better-way way of thinking, and taste for abstractions.
- Interests in classification problems and pattern laws.

I.E.S. Luis de Lucena

SCIENCES BACCALAURATE

Guadalajara, Spain

Sept. 2008 - May. 2010

- Performant in Philosophy, Physics, Mathematics and Biology.
- Time has shown me that high-school was a lot more valuable than I thought back then. To this day, I don't see a red moon in the horizon, I see a refracted electromagnetic field stimulating cone cells which release a chain of sodium-potassium reaction along a neural axon.

Presentations

The marvels of Git.

MOTOROLA SOLUTIONS POLAND

Kraków, Poland

August 2018

- The beauty of a *Dyirected Acyclic Graph* and how it models history.
- Git under the hood: commits, blobs, hashing, and what does it mean for merging.

Type Theory: the programmer's free lunch.

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Kraków, Poland

July 2018

- A clever introduction to typed lambda calculus and first order logic, or *Why the Von Neumann model will hamper all of your reasoning*.
- Type Systems as a holy grail of correctness: theorems as types.
- The foundations behind C++'s Type System. What can Parametric and Ad-hoc Polymorphism in C++ do for you (and some Haskell hints).

Hooking DLLs for extra functionality

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Kraków, Poland

Mar. 2018

- I exposed a C++ application around networking binaries (Citrix, VMware) to take advantage of undocumented functionality.
- Methodically presented my ongoing R&D on this topic for further investment on the improvement of the company's models.

Interfacing to new Libraries










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Kraków, Poland

Feb. 2018

- Developed a series of COM libraries to take advantage of, in the automation of ERP systems and local databases.
- Presented it to my team, in an pedagogic and entertaining fashion, influencing the whole company development's policies.

Most Proud Of

2012		Mention of Excellence: Linear Algebra, honoured to have had an amazing teacher.	Madrid, Spain
2012		A month in the Shaolin Temple: Life changing moment. Training Kung Fu with the monks.	Shaolin, China
2014		Honour Grade: In the Subject of General Topology in Abstract Mathematics.	Madrid, Spain
2014		Karate Black Belt: My life-long lesson of discipline, perserverance, ambition, and passion.	Madrid, Spain
2015		C.A.E. English Certificate: From A2 to scoring 196/210 CAE exam in two years.	Madrid, Spain
2015		My first Bike Trip: 3400km without having cycled before.	Germany & Poland
2016		My tenancy: A second 3400km bike trip over the most montanous regions.	France, Swiss & Italy
2015-18		Learnt Communicational Polish: czy to nie supermoc?	Kraków, Poland
2017-18		Became a Software Developer: Making a career by myself. I'm proud of that.	Kraków, Poland