

# 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

## Experience

### Motorola Solutions Poland

SOFTWARE DEVELOPER

- Development of the CD & CI platforms: whole integration of Jenkins, git, NAnt, Jira, BitBucket, and Artifactory.
- Maintenance of security software and architectures.
- Promotion of modern C++11 & C++14 standards. Promotion of generic programming.
- Environments: Scrum-SAFE methodologies.

Kraków, Poland

June 2018 - PRESENT

### IBM BTO Services Poland

AUTOMATION PROCESS DEVELOPER

- Development of automation tools for the finance sector by means of scripting languages.
- Reassessment of the team practices and quality standards.
  - Exposed ERP APIs by COM compliant binaries
  - Implemented a C++ Command-Line application as a wrapper around Citrix streaming services.
  - Developed code standards, promoted design patterns and a Test-Driven Design approach.

Kraków, Poland

Nov. 2017 - May 2018

### IBM BTO Services Poland

ACCOUNTANT AUTOMATION

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

Kraków, Poland

Feb. 2017 - Oct. 2017

### Profilingua and K&K Language Schools

SPANISH TEACHER

- More than 200 students who improved their skills and passed a diversity of certifications.

Kraków, Poland

Sept. 2016 - Feb. 2017

## Extracurricular Activity

### Programming Languages Theory

MENTOR STAFF IN [COURSERA](#)

- Studied Type Systems, Closures, Abstract Syntax Trees, Language implementations, Type Safety, Introduction to  $\lambda$ -Calculus, a comparison between the Object-Oriented Paradigm against the Functional one.
  - 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.

Coursera

Jan 2018 - PRESENT

### Embedded Projects

EXPERIMENTAL DEVELOPER

- Initial idea to develop a hierarchycal 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.

home, Kraków, Poland

Dec. 2017 - June 2018

## Other Materials

home, Kraków, Poland

### STUDENT

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

## Formal Education

### Instytut Cervantesa w Krakowie

Poland, Kraków

#### CERTIFICATE IN SPANISH LANGUAGE PEDAGOGICS

Sept. 2015 - Dec. 2015

- Learnt about the theory behind Public Speech, Group Dynamics, and Skills Learning.

### Universidad Complutense de Madrid

Madrid, Spain

#### STUDIES IN PURE AND ABSTRACT MATHEMATICS

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

Guadalajara, Spain

#### SCIENCES BACCALAURATE

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

### Type Theory: the programmer's free lunch.

Kraków, Poland

#### MOTOROLA SOLUTIONS 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.
- What can Parametric and Ad-hoc Polymorphism in C++ do for you (and some Haskell hints).

### Hooking DLLs for more available functionality

Kraków, Poland

#### IBM BTO SERVICES POLSKA

Mar. 2018

- I exposed a wrap 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

Kraków, Poland

#### IBM BTO SERVICES POLSKA

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.

### Cultural Events










Kraków, Poland

#### REGIONAL PUBLIC LIBRARY OF KRAKÓW

Oct. 2015 - Jun. 2016

- Realisation of periodic events around the Spanish Language and Culture.
- Challenged my organizational and social skills, learned a lot about my culture and the culture other people.

## Most Proud Of

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