

Marcin Wojnarowski

BACHELOR OF SCIENCE IN ENGINEERING

+48 663 261 490 | xmarcinmarcin@gmail.com | shilangyu.dev | github.com/shilangyu

Personal Profile

Love programming languages, computer science theory, and open source. Keen and quick to learn new things. Open to new technologies. I spend my free time studying and exploring ideas that get me out of my comfort zone. Professional industrial experience in software engineering while keeping in touch with the academic world.

Education

EPFL

Lausanne, Switzerland

Computer Science Theory, Masters

Sep 2023 - Jun 2025

- Studying subjects around programming languages and formal methods
- Working on a project to embed dependant types in a set theoretic theorem prover
- Help with deployment of a formal autograding software

Warsaw University of Technology, Faculty of Mathematics and Information Science

Warsaw, Poland

Computer Science, BSc in Engineering

Oct 2019 - Feb 2023

- Graduated with honors, top of my class
- Received scholarships for academic results
- **Thesis:** *Project of Application for Piano Music Generation by Artificial Intelligence Algorithms* supervised by Jerzy Balicki DSc habil., Associate Professor
- Taught exclusively in English

Bednarska Szkoła Realna

Warsaw, Poland

High School

2015 - 2019

- Specialization in mathematics, information technology, and physics
- Graduated top of the class in my specialization
- Conducted extra-curricular lessons about machine learning

Work Experience

LeanCode

Warsaw, Poland

Software Engineer

Nov 2020 - Present

- Maintaining a contracts language for type-safe communication between different platforms.
- Working on many projects in early and late development stages. Using Flutter for mobile development.
- Maintaining many open source tools.
- Working under an agile Scrum framework. Close contact with clients.
- **Technical Skills:** Dart, C#. CI/CD, mobile, backend.

Zespół Szkół "Bednarska"

Warsaw, Poland

Software Engineer

Jan - May 2020

- Created a digital school diary system as a modern offline-first PWA. Used by the school complex *Zespół Szkół "Bednarska"*. Allows students to receive school announcements, news, and messages much faster. Increased the teacher-student contact.
- **Technical Skills:** Typescript, React. Web dev, REST. Linux.

SWAP

Warsaw, Poland

Full-Stack Software Engineer

Jul - Dec 2019

- Created a new social media app for a new startup. Allows users to connect and share links with use of QR codes.
- **Technical Skills:** Typescript, React, MongoDB, NodeJS. Web dev, backend, databases. Linux.

IBM

Warsaw, Poland

Intern

Jul - Sep 2018

- Research & Development of s micro-frontend solution.
- Gathered knowledge and insights were propagated in IBM.
- **Technical Skills:** Typescript, React, NodeJS. Web dev, backend.

Self-employed

Warsaw, Poland

Freelance

2017 - 2018

- Various paid project opportunities.

Relevant university projects

A small subset of university projects.

Formally verified language

EPFL

Specification and implementation of a toy programming language for which we can formally reason about its properties. Given a statically checked program we prove that its execution is free of runtime problems, such as accessing invalid memory. Implemented in Lean and Stainless.

Project page: <https://github.com/shilangyu/formal-lang>.

Sensor coverage problem

Warsaw University of Technology

By means of Topological Data Analysis the question of whether a set of sensors under some assumptions cover a domain is answered. This was an implementation of the paper *Coordinate-free coverage in sensor networks with controlled boundaries via homology* by V. De Silva and R. Ghrist

Project page: <https://github.com/shilangyu/sensors-coverage>.

Fediverse research

Warsaw University of Technology

Research of the Fediverse platform and its underlying ActivityPub protocol. End result was a presentation, a technical report, and implementation of an integration with the Fediverse. The created application was greatly improved and received a fund of 10 000€ for its development.

Application page: <https://github.com/LemmurOrg/lemmur>.

Skills

Programming Rust, C, C++, Lean, C#, Julia, Golang, Python, Typescript, Dart.

Tools Linux, \LaTeX , Git.

Stack Web, Mobile, Backend, Systems.

Soft Skills Time management, Leader, Team player, Quick learner, Problem solving, Good communication, Teaching.

Achievements

2023	Honors , Bachelor graduation honors	Poland
2022	Scholarship , Bachelor studies for academic results	Poland
2021	Grant , NLnet fund of 10 000€ for development of a decentralized platform https://nlnet.nl/project/Lemmur	Poland

Publications

Formal Autograding in a Classroom (Experience Report)

Dragana Milovancevic, Mario Bucev, Marcin Wojnarowski, Samuel Chassot, Viktor Kuncak

(2024). URL: <http://infoscience.epfl.ch/record/309386>

Interests

Programming languages	I love learning new programming languages and exploring their design decisions. I keep up with this space and I am studying accompanying fields (type theory, compilers, software foundations).
Open source	I believe open source is a crucial part of the modern world. I actively contribute to other projects and open source my own.
Formal subjects	I am a big fan of theoretical computer science, especially of automata and formal languages. Computability theory, logic, and lambda calculus are subjects I am currently exploring. My rule of thumb is: if its theoretical and it doesn't involve real numbers, I will most likely enjoy it.
Skiing/Sailing	Despite my love for things that require sitting in front of a computer, there is nothing I enjoy more in this world than skiing.

Languages

English Fluent

Polish Native

French Written, conversational

References available upon request.