

# Andrei Kozyrev

## Curriculum Vitae

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### Education

- 2020–2022 **The Faculty of Mathematics and Computer Science, Modern Software Engineering, Saint-Petersburg State University**, Saint-Petersburg, Russia.
- 2022–2023 **Bachelor of Science, Computer Science, Constructor University Bremen**, Germany, Bachelor of Computer Science. GPA: **B+**.
- 2023–2025 **Master's of Science, Advanced Software Technology, Constructor University Bremen**, Germany.

### Publications

- arXiv'25 **A. Kozyrev, N. Khramov, G. Solovev, A. Podkopaev**, *RocqStar: Leveraging Similarity-driven Retrieval and Agentic Systems for Rocq generation*, 2025, Preprint at the moment.
- ASE'24 **A. Kozyrev, G. Solovev, N. Khramov, A. Podkopaev**, *CoqPilot: LLM-based Proof Generation in Coq*.

### Professional Experience

- 2023–present **Research Scientist, JetBrains Research, Bremen**, Germany.  
Proof automatization using Language Models.
- 2022–2023 **Intern at JetBrains Programming Languages Lab, Bremen**, Germany.  
Proof automatization for Coq proof assistant using OCaml & Rust.
- 2022 **Swift Developer, Saint-Petersburg**, Russia.  
IOS Software Developer in an outsourcing company, Spring 2022.

### Selected Projects

**A note**, names are referal to github projects.

- 2025 **Rocq RAG**, A novel approach to Retrieval Augmented generation in Rocq language. Developed during work in JetBrains-Research, **Rocq (Coq)**, **PyTorch**, **TypeScript**.
- 2024 **CoqPilot**, A Visual Studio Code extension that is designed to help automate writing of Coq proofs. Developed while working in JetBrains-Research, started as a one-person project, and has grown to a three-people team. Repository on GitHub has more than 100 stars, paper is published on ASE'24, **TypeScript**, **Coq**.
- 2023 **Proofs of relational expressions via EGG**, Equality saturation for solving equalities of relational expressions, bachelor thesis in Constructor University Bremen, **Rust**, **OCaml**, **Coq**.
- 2022 **High-Performance Network Programming in Swift**, Research on Highly-efficient network programming using Swift and any competitive ability of Swift in this domain, **Swift**, **Java**, **Python**.
- 2022 **Progressive GAN Pytorch**, Progressive generative adversarial network implementation from “Progressive growing of GANs for improved Quality, Stability, and Variation” paper, **Python**.
- 2021 **P2Beer**, A fully decentralized peer to peer desktop console messenger with a curses-like interface. Created in a team of three people on first bachelor year, **Kotlin**.

### Recent contests

- Place 16 globally in **Reply Code Challenge** 2021.
- Place 407 globally in **Google Hash Code** 2021.