Evgenii Kotelnikov, Ph.D.

Date of birth: 15 February 1990

Current location: Gothenburg, Sweden (open to relocation)

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I am a **software developer** and a **computer scientist** dedicated to building complex reliable software.

My academic background is in **formal methods**, **static analysis** and **functional programming**.

Over the last 15 years I worked as a software developer within **Cloud**, **Web**, **Telecom** and **Automotive**.

I worked with many tech stacks over the years, and my preferred ones are **C**, **Python**, **Scala** and **Haskell**.

Work experience

🔗 My LinkedIn profile

Zenseact AB
Software developer

February 2021 to now 📅
Gothenburg, Sweden 📍

Zenseact develops an autonomous driving platform for Volvo Cars.

- Develop safety critical software components of self-driving cars in C, C++ and Ada.
- Scout for requirements, breakdown, refine and formalize.
- Integrate the SPARK verification toolchain into the company's codebase.
- Formally verify safety requirements of the core components in SPARK.

C   C++   Python   Ada   SPARK

Ericsson AB
Software developer

August 2019 to January 2021 📅
Gothenburg, Sweden 📍

- Implemented new features for the control plane of SGSN-MME in Erlang.
- Helped to migrate Ericsson's 5G platform from custom hardware to the telco cloud. Among other things, implemented a cloud-based storage and logging infrastructure for it.

Linux   Erlang   C   Bash   Python   Kubernetes   Docker

Chalmers University of Technology
Doctoral researcher

September 2013 to September 2018 📅
Gothenburg, Sweden 📍

- Conducted research in the areas of automated theorem proving, formal methods and functional programming.
- Published and presented academic results in conferences and workshops (see my Google Scholar profile).
- Actively contributed to Vampire, a state-of-the-art automated theorem prover for first-order logic.
- Assisted to preparing assignments, conducting consultation sessions and grading exams in the courses on Functional Programming, Databases, Algorithms and Datastructures.
- Developed and maintained a homework submission system in the Computer Science department used annually by approx. 1000 students and 20 faculty members.

Java   Haskell   Python   PostgreSQL   Oracle Database

Amazon Web Services
Applied scientist intern, Automated Reasoning Group

March 2017 to June 2017 📅
New York, USA 📍

Implemented an experimental backend for Tiros — a static analyzer of AWS virtual private cloud networks.

Scala   Python   Datalog   Vampire   Z3

Yandex Inc.
Software developer

March 2011 to August 2013 📅
Saint-Petersburg, Russia 📍

- Developed the back end of high-load web search services, including an in-house performant database solution capable of serving up to 400 requests per second.
- Developed information retrieval tools and web crawlers.
- Developed an app recommendation system for Yandex.Store.

Java   Scala   Akka   Oracle Database   MongoDB   Redis

Motorola Solutions Inc.
Software engineering intern

July 2010 to December 2010 📅
Saint-Petersburg, Russia 📍

Designed a specification language for low-level telecom protocols and implemented a toolchain for it.

Lisp   C   Python   Wireshark

Freelance
Web developer

2005 to 2010 📅
Remote 📍

Developed front end and back end of commercial websites.

PHP   MySQL   HTML   CSS   JavaScript   jQuery

Education

Doctor of philosophy (Ph.D.)

September 2013 to September 2018 📅
Gothenburg, Sweden 📍

Chalmers University of Technology, Department of Computer Science

Thesis titled "**Automated Theorem Proving with Extensions of First-Order Logic**"

Ph.D. supervisors Laura Kovács and Andrei Voronkov

Explored ways to make automated theorem provers more efficient for applications by extending the logic that they reason in. The applications include automation of proof assistants and static analysis of software and networks.

Automated theorem proving   Formal methods   First-order logic   Static analysis   Vampire

Master of science (M.Sc.)

September 2011 to July 2013 📅
Saint-Petersburg, Russia 📍

Saint-Petersburg State University, Department of Applied Mathematics

Thesis titled "**Syntactical Extensions of Scala for Effectful Computations**"

Scala   Metaprogramming   Monads   Computational effects

Bachelor of science (B.Sc.)

September 2007 to July 2011 📅
Saint-Petersburg, Russia 📍

Saint-Petersburg State University, Department of Applied Mathematics

Thesis titled "**Source Code Generation Based on Language Grammar Description**"

Source code generation   Context-free grammars   Algebraic data types   Scheme

Public software projects

🔗 My GitHub profile

vampire   C++

An award-winning automated theorem prover for first-order logic.

voogie   Haskell

A verification conditions generator for the Boogie intermediate verification language.

scala-workflow   Scala

An extension to Scala for boilerplate-free syntax for effectful computations.

atomizer   Erlang

A static analysis tool for finding loose atoms in large Erlang code bases.

atp   Haskell

Haskell interface to automated theorem provers.

fire   Python   HTML   CoffeeScript   Docker

A submission system for homework assignments.