

Top Skills

Computer Vision

Artificial Intelligence (AI)

Mathematics

Languages

English (Full Professional)

French (Limited Working) Russian
(Elementary)

German (Elementary)

Polish (Full Professional)

Mathematics / ML / CV / software

Lodz Metropolitan Area

Summary

I'm interested in Pure Mathematics, Applied Mathematics, Theoretical Physics, Theoretical Neuroscience and Neuromorphic Computing, Complex Adaptive Systems, ...

I have experience in Functional Programming, Software Engineering and Deep Learning for Computer Vision.

Experience

Amant AI

Mathematics / Statistical Learning in Computer Vision / Computer Programming

February 2020 - Present (4 years 7 months)

6 projects for the following companies:

MIM Solutions, Neutrica, AGICortex.

Main technologies:

Julia, Python, Pytorch, Tensorflow

DL research:

- Depth estimation,
- GAN-based image style transfer (making a better version of DualGAN)

Applied object detection and tracking for automatic generation of various sports-field related events.

Bandit Algorithms (applied for an ad trading platform)

Dynamic Image Stitching and Camera Calibration.

Researching applicability of SOINN-like approaches to continual learning.

Applied mathematics:

- implementing novel Lagrange inversion for bivariate series,
- implementing and using concepts from Real and Complex Projective Geometry.

QOMPLX

Mathematician / Software Developer

September 2016 - January 2020 (3 years 5 months)

Studying and implementing multiple research ideas.

Development of large, mathematics-heavy AI libraries and software engines:

1. A library for estimators of multiple information-theoretic concepts (various entropies, etc.) in Scala.
2. A library for information-theoretic hierarchical clustering in Scala.
3. Implementation of "information sieve" (a class of unsupervised learning algorithms) in Scala and Apache Spark.
4. Development of a generic Automated Planning Engine.
5. Monte-Carlo Tree Search library.
6. Calculation of risk library: VaR, TVaR for several models.
7. Additional Scala development work including the use of modern technologies such as Akka.

Rationem

Mathematician / Software Developer

June 2015 - September 2016 (1 year 4 months)

See QOMPLX entry above for a unified description of both jobs (this is basically the same employer).

GFT Poland Sp. z o. o.

Senior Scala Developer

May 2015 - October 2015 (6 months)

Łódź, Poland

Learning Apache Spark and Hadoop ecosystems.

Learning investment banking basics.

Assisting in migrations of large software deployments - some unix/python/sql scripting.

Fujitsu Technology Solutions

Development Engineer

February 2015 - May 2015 (4 months)

Łódź, Poland

Java EE software development for a large project.

Inovatica

Software Engineer

September 2012 - February 2015 (2 years 6 months)

Łódź, Poland

Java (and Scala) fullstack web development in Spring Framework. Algorithm development.

A dynamic workplace, where I had many responsibilities. For instance, I've designed, implemented, and maintained:

- a bespoke trip planning engine (first in Java, later in Scala),
- a waterway routing component,
- an event-sourced city-games engine with flexible DSL-based rules (Scala),
- HATEOAS (REST) APIs.

I have used a lot of PostgreSQL (designing and normalizing schemas, PostGIS, Liquibase, Mybatis,...).

I have also had a little experience with modern web development (e.g. jQuery, angularJS, CSS3).

Centre for Industrial and Applied Mathematics and Systems Engineering, Polish Academy of Sciences

Senior Researcher

June 2012 - September 2012 (4 months)

Warsaw, Poland

Thermodynamic and statistical modelling.

Supervising student projects.

Faculty of Mathematics and Computer Science, University of Łódź

Assistant Professor

October 2007 - September 2011 (4 years)

Research on Entropy and Quantum Statistics. Teaching.

Institute of Mathematics of the Polish Academy of Sciences

Research Assistant

October 2006 - September 2007 (1 year)

Warsaw, Poland

Research on Entropy and Complex Dynamics.

Faculty of Mathematics, University of Łódź

Teaching Assistant

October 2003 - September 2005 (2 years)

Research in Complex Algebraic Geometry. Teaching.

Education

Faculty of Mathematics, University of Łódź

Doctor of Mathematical Sciences (PhD) · (2007)

Faculty of Mathematics, University of Łódź

MsC · (1998 - 2002)

A semester at Jagiellonian Univeristy

XXXI Secondary School in Łódź