

# Szabo Roland Teodor

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## CONTACT

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## WORK EXPERIENCE

rolisz consulting  
Machine Learning Consultant

December 2020 — Present

I am a machine learning consultant, trainer and advisor looking to help companies in their ML journey.

Archive 360

July 2019 — November 2020

Tech Lead

I was the tech lead for a team of 5 people, working on a project to extract data from cloud based SaaS (Office 365 and related products). We extracted the data with high fidelity, so that customers can then save money by deactivating the unneeded licenses, without losing any data. The binary data is stored in cloud blob storage, while metadata about the files (the users to whom it belongs or was shared with, relations to other files) are stored in CosmosDB (graph database). Our tech stack was based on Python, Spark, Kafka and Kubernetes.

Laif Science

March 2018 — July 2019

Software Engineer

I lead a team of 5 to build a real time surveillance camera processing system to recognize faces, identify intruders and detect dangerous objects such as guns and knives. The ML models were built using Tensorflow, taking pretrained models and doing fine tuning using our own data. The models had to be tuned in order to achieve the necessary low latency to enable doing this in real time.

I designed the architecture and lead a team that builds a GUI system to enable non technical people to create ML pipelines without having to write code. This pipeline enables the creation of scikit-learn and Tensorflow pipelines by dragging and connecting blocks that do preprocessing and apply ML algorithms. Many best practices are built in and the UI helps choose the best model.

Google

July 2016 — January 2018

Software Engineer

I was part of the Google Calendar team. I was building a recomender system for rooms, which is used in companies that use Google Calendar to manage their meetings.

I developed pipelines to process historical event data, join it with other data sources and then extract useful signals from them. I trained machine learning models on those signals and I ran experiments to see which ones performed better in production.

Google

September 2014 — June 2016

Site Reliability Engineer

I was part of the team that was responsible for the storage layer of GMail and Google Drive. I was working on automation workflows for deployments, capacity planning and anomaly detection on monitoring data.

3Pillar Global

Sept 2013 — July 2014

Junior Python Developer

I was part of a team that developed the backend for PBS. One of the projects was building

a recommender system for the videos that are served by PBS. Using historical data, users are then made suggestions as to what new movies or TV series they may like.

## EDUCATION

### Computer Science

October 2011 — June 2014

Babes-Bolyai University, Cluj-Napoca

I was first in my class. I finished with straight 10 (out of 10).

I took a course about robotics, where, together with 4 classmates, we built a waiter robot. It would pick up cups from a table and then go around in a room serving people. When its tray was empty, it would go back to the table for more cups. We won two prizes with it at a robot-making fair.

## QUALIFICATIONS

In addition to my courses at school, I have taken several online courses from MOOCs such as Coursera, edX and Udacity:

- Artificial Intelligence, from edX, by Dan Klein
- Machine Learning, from Coursera, by Andrew Ng
- Natural Language Processing, from Coursera, by Michael Collins
- Introduction to Artificial Intelligence, from Udacity, by Sebastian Thrun and Peter Norvig
- Autonomous Navigation for Flying Robots, from edX, by Jürgen Sturm

## PROGRAMMING LANGUAGES

- Python - advanced
- Java - advanced
- Rust - medium
- Go - medium
- Javascript - medium

## TOOLS

- Machine learning libraries: Tensorflow, scikit-learn
- Distributed processing: Apache Spark, Apache Beam, Kafka
- Cloud vendors: Google Cloud Platform, Azure
- Web apps: Flask, FastAPI
- NoSQL: CosmosDB, Gremlin
- Containers and Orchestration: Docker, Kubernetes
- Data collection: Scrapy

## ADDITIONAL INFORMATION

I have contributed to a few open-source projects, including a machine learning library in Python (scikit-learn and Ludwig).

I published several articles in Today Software Magazine, a Romanian programming magazine, about deep learning. I have given different Tech Talks at my university, among others about machine learning. I have also taught machine learning courses at Google.

Spoken Languages:

- Native proficiency in Romanian and Hungarian
- Professional in English

## PROJECTS

- Implementation of Codenames (boardgame) in Rust - <https://rolisz.ro/2020/06/10/playing-codenames-with-rust/>
- Web crawler in Rust - <https://rolisz.ro/2020/03/01/web-crawler-in-rust/>
- IM Log Processing - An application to parse instant messaging logs from Trillian, Digsby, Pidgin, Whatsapp, Facebook, Hangouts and put them in a single database. <https://github.com/rolisz/Log>
- ReceiptBudget - An application for managing personal expenses. I developed a custom OCR engine using Theano, a neural network library, for scanning receipts. -

[https://github.com/rolisz/receipt\\_budget](https://github.com/rolisz/receipt_budget)

- A tool for annotating images with bounding boxes of objects. It has support for plugging in custom heuristics for suggesting possible objects of interest. Built in Python, using Flask. - [https://github.com/rolisz/image\\_annotator](https://github.com/rolisz/image_annotator)
- Turmite simulation in Javascript - <http://rolisz.ro/proiecte/turmites-2/>