# Josef Ondrej

## 💼 Employment history

### Consultant for Institute of Clinical and Experimental Medicine
December 2019 — Present

- Development of an algorithm for finding the best matching of donors and recipients in a kidney exchange program. Part-time.

### Research Scientist at IBM Watson
May 2018 — Present

- Development and implementation of machine learning algorithms for auto-improvement of chatbots from their interactions with human users. Includes the whole process from research of relevant reinforcement-learning methods to writing production grade code and deploying it in a cluster using several microservices.
- Research and development of methods for declarative authoring of chatbots.

### Mathematician at Tipsport
August 2014 — April 2018

- Development of an image recognition model for tracking the ball in table tennis matches.
- Development of models for determining live odds in sports matches (volleyball, beach volleyball, badminton, tennis doubles, horse racing). I was solely responsible for the whole process from data scraping to design and implementation of the models.
- Development of a model for estimating risk factor of clients based on their betting history.

### Member of research team at Czech Military Technical Institute
October 2013 — December 2013

- Development of a model that described how the probability of diverting a guided missile depends on the target's maneuver.

## 🎓 Education

### Master's degree, Charles University
September 2013 — June 2015

- Probability, mathematical statistics, and econometrics at the Faculty of Mathematics and Physics.
- Graduated with honors.
- Diploma thesis: Expectile regression.

### Bachelor's degree, Charles University
September 2010 — June 2013

- Bachelor's degree in mathematics at the Faculty of Mathematics and Physics.
- Graduated with honors.
- Diploma thesis: Probability distributions on metric groups.

## Contact
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## Links
github.com/josefondrej
linkedin.com/in/josefondrej

## Skills
Python { NumPy, TensorFlow, Pandas, SciPy, Keras, Flask, Selenium, OpenCV }

Java

PDDL, SQL, shell scripting, Docker, Kubernetes, Jenkins, HTML, CSS

## Languages
Czech

English

German

## ✎ Courses

- Deep Learning Specialization: five courses covering the foundations of deep learning (coursera certificate)
- Machine Learning (coursera certificate)
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning (coursera certificate)

## 📖 Publications

2019

- **Planning for Goal-Oriented Dialogue Systems.**
  Muise, C.; Chakraborti, T.; Agarwal, S.; Bajgar, O.; Chaudhary, A.; Lastras-Montano, L. A.; Ondrej, J.; Vodolan, M.; and Wiecha.

- **Generating Dialogue Agents via Automated Planning.**
  Botea, A.; Muise, C.; Agarwal, S.; Alkan, O.; Bajgar, O.; Daly, E.; Kishimoto, A.; Lastras, L.; Marinescu, R.; Ondrej, J.; Pedemonte, P.; and Vodolan, M.
  In AAAI Workshop on Reasoning and Learning for Human-Machine Dialogues.

- **Executing Contingent Plans: Addressing Challenges in Deploying Artificial Agents.**
  Muise, C.; Vodolan, M.; Agarwal, S.; Bajgar, O.; Lastras, L.; and Ondrej, J.
  In ICAPS Workshop on Integrating Planning, Acting, and Execution.

## 🏅 Awards

- **Member of the winning team at CEE Smart Health Hackathon**
  November 2019
  Created a web app that helps blind people with diabetes to read data from their glucometers.

- **Member of the winning team at Rockaway Hackathon**
  December 2017
  Created a recommender system that can predict products that e-shop customers might be interested in based on their browsing history.