

# Bogdana Rakova

San Francisco, CA 94110

+1 (423) 255-7936

[b.rakova@gmail.com](mailto:b.rakova@gmail.com)

<http://bobirakova.com/>

## EDUCATION

### Harvard Kennedy School executive program, Boston – *Leading Successful Programs: Using Evidence to Assess Effectiveness*

MAY 2020

An in-depth look at key aspects of understanding and implementing evidence-based strategies for conducting policy impact evaluations.

### Assembly, MIT Media Lab & Harvard's Berkman Klein Center, Boston – *Spring semester fellowship: Ethics and Governance of AI*

JANUARY 2018 - MAY 2018

Explored the legal, policy, and regulatory perspectives when investigating the implications of AI. Used the framework of Causality and Bayesian Inference to create new ways for people to interact with AI ([ProjectOrdo](#)).

### Singularity University, Mountain View, CA — *Graduate Studies Program*

MAY 2012 - AUGUST 2012

### Sofia University St. Kliment Ohridski, Sofia, Bulgaria — *Bachelor of Computer Science*

OCTOBER 2008 - SEPTEMBER 2012

## PUBLICATIONS

- [In Review] Rakova, B., Yang, J., Cramer, H., & Chowdhury, R., (2020). [Where Responsible AI meets Reality: Practitioner Perspectives on Enablers for shifting Organizational Practices.](#)
- Havrda, M. & Rakova, B., (2020). [Enhanced well-being assessment as basis for the practical implementation of ethical and rights-based normative principles for AI.](#) In the Proceedings of 2020 IEEE International Conference on Systems, Man and Cybernetics (SMC).
- Rakova, B. & Winter, A., (2020). [Leveraging traditional ecological knowledge in ecosystem restoration projects utilizing machine learning.](#) To be presented at the ACM Knowledge Discovery and Data Mining (KDD) 2020 Conference Workshop on "Fragile Earth: Data Science for a Sustainable Planet"
- Schiff, D., Rakova, B., Ayesh, A., Fanti, A., & Lennon, M. (2020). [Principles to Practices for Responsible AI: Closing the Gap.](#) European Conference on AI (ECAI) Workshop on "Advancing towards the SDGs: AI for a fair, just, and equitable world (AI4EQ)".
- Rakova, B., Chowdhury, R., & Yang, J., (2020). [Assessing the intersection of organizational structure and FAT\\* efforts within industry: implications tutorial.](#) In Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency.
- Musikanski, L., Rakova, B., Bradbury, J. et al. (2020). [Artificial Intelligence and Community Well-being: A Proposal for an Emerging Area of Research.](#) Springer International Journal of Community Well-Being.

## RESEARCH INTERESTS

Multi-stakeholder cooperation in the context of AI.

Better collaboration and communication interfaces between people and AI.

Investigating the broader social and economic implications of AI-driven systems.

Causality and probabilistic programming.

## SKILLS

Excellent communication skills. Always strives to collaborate and be a good team player.

Statistics and Machine Learning,  
Fast Prototyping,  
Embedded Software Development,  
Android Application Development,  
Data Visualization and Web Development

## FRAMEWORKS

TensorFlow  
Keras  
Matlab

## LANGUAGES

Python  
C/C++/C#  
JAVA  
Javascript

## PUBLICATIONS

- Rakova, B., & Kahn, L. (2020). [Dynamic Algorithmic Service Agreements Perspective](#).
- Rakova, B., & Chowdhury, R. (2019). [Human self-determination within algorithmic sociotechnical systems](#).
- Rakova, B., & DePalma, N. (2018). [Minority report detection in refugee-authored community-driven journalism using RBMs](#).
- Ortega-Avila, S., Rakova, B., Sadi, S., & Mistry, P. (2015). [Non-invasive optical detection of hand gestures](#). In *proceedings of the 6th augmented human international conference* (pp. 179-180).

## PATENTS

- Electromagnetic Interference Signal Detection. US20160259432A1 filed 05-12-2016, and issued 09-11-2018.
- Identifying Device Associated With Touch Event. US20160259451A1 filed 05-12-2016, and issued 10-16-2018.
- Processing electromagnetic interference signal using machine learning.
  - US20160261268A1 filed 05-12-2016. Patent Pending.
  - WO2017090945A1 filed 11-21-2016. Patent Pending.
- Optical detection and analysis of internal body tissues. WO2016117898A1 filed 01-19-2016. Patent Pending.

## EXPERIENCE

### **Responsible AI, Accenture, San Francisco – Data Scientist**

MARCH 2019 - PRESENT

Lead Data Scientist, coordinating other teams which can contribute resources to the Responsible AI practice, conducting research, and building technical tools to enable organizations to consider fairness, accountability, and transparency of the AI-enabled systems they are using or building internally.

### **Partnership on AI, San Francisco – Research Fellow**

DECEMBER 2019 - PRESENT

My role is related to doing qualitative and quantitative research on the intersection of organizational structure and the integration of fairness, accountability, and transparency of AI practices in industry. I'm doing ethnographic research with many of the industry organizations participating in PAI and the broader AI research community.

### **IEEE P7010 Working Group & Editor board member at the Special Issue of IJCWB**

DECEMBER 2018 - PRESENT

Major contributor to the Recommended Practice Standard for Assessing the Impact of Autonomous and Intelligent Systems on Human Well-being (IEEE P7010) - developing detailed scenarios of how organizations could implement and apply the standard in different settings.

Lead guest editor at a related [special issue](#) of the [Springer International Journal of Community Well-being](#).

### **Samsung Research America, Mountain View — Senior ML Research Engineer**

DECEMBER 2014 - FEBRUARY 2019

Part of an interdisciplinary research group called Think Tank Team. Working in the fields of Machine Learning, Embedded Software Development, Signal Processing, Android and others. <http://thinktankteam.info/>

### **Singularity University, Mountain View — Networks & Computing Systems Teaching Fellow**

JUNE 2014 - SEPTEMBER 2014

Conducting Computer Science workshops in the fields of Machine Learning, Data Science, IoT, Sensors and others. The activities were part of the 3-month Graduate Studies Program developed for 80 international interdisciplinary participants.

## EXPERIENCE

### **Emailio, Mountain View — Backend Software Engineer**

MAY 2014 - AUGUST 2014

Building a scalable web backend infrastructure on top of node.js, redis and others. Implementing ML classification algorithms for ranking emails based on people's interests.

### **HutGrip, Chattanooga — CTO and co-founder**

SEPTEMBER 2012 - APRIL 2014

Working on helping small and medium sized manufacturing companies prevent failures on the production line by utilizing statistics and regression tools. My role included identifying what are the problems in different manufacturing processes, analyzing if our software cloud-based tool can provide data insights to help solve them and measure the results.

### **CompleTIT, Sofia — Software Engineer**

FEBRUARY 2010 - May 2012

Developing an open source visual prototyping tool for microcontrollers. Responsible for low-level C++ embedded development of the [platform for ARM-based controllers](#). Worked on data analysis and visualization software to guide the semi-automated execution of DNA electrophoresis experiments and visualize the result.

## COMPETITION AWARDS & OTHERS

- [Kaggle competition winner](#) for my work on the COVID-19 research dataset which aims to investigate the ethical and social science considerations regarding the COVID-19 pandemic outbreak response efforts.
- Co-lead a session during the Foresight Institute 2020 AGI Strategy on [Organizing for Beneficial AGI: Lessons From Industry](#). See a summary of the talk [here](#).
- Featured as a Samsung Senior Research Engineer with my story of how "[Childhood play grows into AI](#)"
- Connected Devices Fellow at Amplify Partners - an early-stage venture capital fund focussed on Data Science, San Francisco, 2014.
- Startup Weekend winner in Sofia, 2012 with the HutGrip project.
- Singularity University Global Impact Competition for Central and Eastern Europe, 2012 - I was one of the two finalists who received a scholarship of \$25,000 for the Singularity University Graduate Studies Program in 2012.
- Microsoft Imagine Cup, 2011 - I reached the global finals in the biggest Microsoft student technology competition with a game about environmental sustainability. The project qualified in the top five in the World in the Game Design category.