Bogdana Rakova

Social change through systems that allow for participation.

336 Guerrero st,
San Francisco, CA 94103
(423) 255-7936
b.rakova@gmail.com
http://bobirakova.com/

EDUCATION

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

JANUARY 2018 - MAY 2018
Learned about 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 & DatasetNutritionLabel

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

- Human self-determination within algorithmic sociotechnical systems, Human-Centered AI: Trustworthiness of AI Models & Data (HAI) track at AAAI Fall Symposium, DC, November 7-9, 2019.
- Minority report detection in refugee authored community-driven journalism using RBMs, AI For Social Good workshop, NeurIPS, 2018.
- Non-invasive optical detection of hand gestures, Augmented Human International Conference, 2015.

Currently in progress/review:
- Incorporating community engagement frameworks into the Machine Learning pipeline towards sustainable livelihoods
- Assessing the intersection of Organizational Structure and fairness, accountability, and transparency of AI efforts within industry
- Artificial Intelligence and Community Well-Being: Managing Threats and Seizing Opportunities through Well-Being Indicators

PATENTS

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

RESEARCH INTERESTS

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

EXPERIENCE

IEEE P7010 Working Group & editor board member at the Special Issue of IJCWB
DECEMBER 2019 - PRESENT

Contributing to the Wellbeing Metrics Standard for Ethical Artificial Intelligence and Autonomous Systems (IEEE P7010) - developing detailed scenarios of how organizations could implement and apply the standard in different settings. Part of the editors board for a Special issue of the Springer **International Journal of Community Well-being**. See the related call for proposals.

Responsible AI, Accenture, San Francisco - Data Scientist
MARCH 2019 - PRESENT

Conducting an Ethnographic study exploring how does internal organizational structure influences algorithmic fairness, accountability, and transparency efforts within industry.

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.

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. I was responsible for low-level C++ embedded development of the platform for ARM-based controllers: https://github.com/IndigoVerge/Agilart-Run-Time
Worked on DNA analysis and visualization software to guide the semi-automated execution of DNA electrophoresis experiments and visualize the result reported by a Photon Detector device.

COMPETITION AWARDS & OTHERS
- Featured as a Samsung Senior Research Engineer with my story of how "Childhood play grows into AI": https://news.samsung.com/us/Bogdana-Rakova-childhood-play-grows-ai-faces-of-samsung
- 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 top five in the World in the Game Design category.