

Andreea Bobu

2121 Berkeley Way 8043-5

Berkeley, CA 94704

☎ (617) 417-0993

✉ abobu@berkeley.edu

📁 people.eecs.berkeley.edu/~abobu/

Education

- 2017–present **PhD in Computer Science**, *University of California Berkeley*, CA, USA, CGPA: 4.0.
Advisor: Anca Dragan
- 2013–2017 **Bachelor of Science in Computer Science and Engineering**, *Massachusetts Institute of Technology (MIT)*, Cambridge, MA, USA, GPA: 5.0/5.0.
Advisors: Polina Golland, Stefanie Jegelka, Adrian Dalca

Publications

- paper link **Andreea Bobu**^{*}, Dexter Scobee^{*}, Jaime F. Fisac, Shankar Sastry, Anca D. Dragan. “LESS is More: Rethinking Probabilistic Models of Human Behavior”. *ACM/IEEE International Conference on Human Robot Interaction (HRI)*, 2020.
- to appear **Andreea Bobu**, Andrea Bajcsy, Jaime F. Fisac, Sampada Deglurkar, Anca D. Dragan. “Quantifying Hypothesis Space Misspecification in Learning from Human-Robot Demonstrations and Physical Corrections”. *IEEE Transactions on Robotics (T-RO)*, 2019.
- paper link **Andreea Bobu**, Andrea Bajcsy, Jaime F. Fisac, Anca D. Dragan. “Learning Under Misspecified Objective Spaces”. *Conference on Robot Learning (CoRL)*, 2018.
- paper link **Andreea Bobu**, Eric Tzeng, Judy Hoffman, Trevor Darrell. “Adapting to Continuously Shifting Domains”. *International Conference on Learning Representations (ICLR) Workshop*, 2018.
- paper link Adrian V. Dalca, **Andreea Bobu**, Natalia S Rost, Polina Golland. “Patch-Based Discrete Registration of Clinical Brain Images”. In: *Proc. MICCAI-PATCHMI Patch-based Techniques in Medical Imaging, LNCS 9993 (2016)*, 60-67. **Best paper award.**

Experience

- 2016–2017 **MIT Computer Science and Artificial Intelligence Laboratory** Cambridge, MA
Undergraduate Researcher under Prof. Polina Golland and Stefanie Jegelka
- Utilized machine learning techniques (principal component analysis, Gaussian mixture models, and latent topic models) to construct better 3D representations for leukoaraiosis, a small vessel brain disease.
 - Predicted diseased areas in the brain by modeling white matter hyperintensity in 3D brain images.
- Summer 2015 **Microsoft** Cambridge, MA
Software Development Intern
- Helped build a health-oriented food-tracking application for the Microsoft Band.
 - Developed the entire back-end side of the cloud server used for the application.
 - Implemented part of the user interface and helped create user studies (C#, node.js, Azure).
- 2015–2017 **MIT Computer Science and Artificial Intelligence Laboratory** Cambridge, MA
Undergraduate Researcher under Prof. Polina Golland and Dr. Adrian Dalca
- Utilized machine learning, inference, and image analysis techniques to create a patch-based discrete image registration algorithm for sparse 3D brain images in MATLAB.
 - Released code that is applicable to a variety of image shapes, dimensions, and modalities. The open-source code can be found [here](#).
 - Published a paper for the MICCAI Patch-MI workshop 2016 that won **Best Paper Award**.

- Summer 2014 **Bloomberg** *New York, NY*
Research and Development Intern (Software Development)
 - Developed a unit-testing framework for a large-scale C++ system (Internal and Web Applications team).
 - Winner of the B-Puzzled algorithmic competition – out of approximately 20 teams.
- Spring 2014 **MIT Koch Institute for Integrative Cancer Research** *Cambridge, MA*
Undergraduate Researcher under Prof. Daniel Anderson
 - Utilized Natural Language Processing tools to mine biomedical literature for drug and toxin biodistribution in the human body.
 - Created an ontological tree of human organ subparts and worked on linking mined chemicals to the organ area where they are most prevalent.

Awards and Recognitions

- 2019 Recipient of the Cadence Women in Technology Scholarship
- 2019 UC Berkeley EECS Nominee for the IBM PhD Fellowship
- 2019 UC Berkeley EECS Nominee for the Google PhD Fellowship
- 2018 UC Berkeley EECS Nominee for the Microsoft Research Ada Lovelace Fellowship
- 2016 Recipient of the Google Anita Borg Memorial Scholarship
- 2009-2013 Romanian National Chemistry Olympiad – 1st place (2011), 2nd place (2012), 4th place (2013)
- 2009-2011 2nd prize in the International Mathematical Kangaroo Competition (2009, 2010, 2011)
- 2010 Qualified in the National Informatics Olympiad

Teaching

- Fall 2019 Teaching Assistant for Introduction to Artificial Intelligence (CS 188) at UC Berkeley
- August 2018 Teaching Assistant for AI4ALL Berkeley, a camp for students from underrepresented communities
- January 2016 Instructor/Lecturer for Introduction to Software Engineering in Java (6.178) at MIT
- 2015-2017 Tutor for Design and Analysis of Algorithms (6.046) at MIT
- 2015-2017 Tutor in Computer Science as part of TBP's Tutoring Committee at MIT
- Spring 2014 Student Lab Assistant for Introduction to Electrical Engineering and Computer Science at MIT
- 2013-2015 Teacher for "Water Security in Asia", "Introduction to Probability", and "Group Theory" as part of the Educational Studies Program at MIT
- 2011-2013 Teacher of Mathematics and Romanian language at the "Ascendent" Foundation for economically disadvantaged children in Bucharest, Romania

Leadership/Activities

- Spring 2020 Co-organizer of the SemiAutonomous Vehicles seminar
- Summer 2019 Co-organizer of the Self-Driving Cars workshop for the Girls in Engineering camp
- 2018-present Mentor in the Berkeley AI Research Undergraduate Mentoring Program
- 2018-2019 Mentor in the Berkeley WICSE Mentorship Program
- 2016 Mentor in MIT's Women in Science and Engineering (WiSE) Program
- 2015-present Member of Tau Beta Pi (TBP) National Honor Society for Engineering
- 2015-present Member of Eta Kappa Nu (HKN) National Honor Society for EECS
- Summer 2015 Participant in Microsoft's women mentorship program
- 2014 Participant in the MIT Terrascope Water Security project in South Africa
- 2013-2014 Director of Spring High School Studies Program at MIT
- 2013-2014 Freshman Representative and Web Developer of ClubChem at MIT
- 2013-2016 Participant in the women mentorship program Red Thread

- 2011-2013 Volunteer and instructor at the Romanian Red Cross Organization
- 2011-2013 Volunteer and organizer of musical and ecological events in the Volunteer Brigade in Bucharest
- 2010-2013 Ambassador and collaborator of the AIESEC Organization

Relevant Coursework

- Vision/ML/AI Machine Learning, Computer Vision, Deep Reinforcement Learning, Advances in Deep Learning, Robotics, Artificial Intelligence, Convex Optimization and Approximation, Nonlinear Optimization, Bayesian Inference and Modeling, Introduction to Inference, Shape Analysis, Cognitive Development for Computer Scientists
- Mathematics Probability and Random Variables, Theoretical Statistics, Statistical Models: Theory and Application, Statistics for Research Projects, Convex Optimization and Approximation, Linear Algebra, Multivariate Calculus, Cryptography
- Algorithms Design and Analysis of Algorithms, Introduction to Algorithms, Theory of Computation
- Systems Computer System Engineering, Signals and Systems, Elements of Software Construction, Computation Structures

Technical skills

- Languages Python, MATLAB, Java, Julia, C/C++, C#, node.js
- Libraries Tensorflow, OpenAI Gym, PyTorch, ROS
- OS GNU/Linux (Ubuntu), Microsoft Windows, MacOS
- Other Git, \LaTeX , Microsoft Office, Adobe Photoshop, MySQL Database, HTML