Evan W. Becker

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EDUCATION:

University of California, Los Angeles (UCLA)	Expected 2025
Ph.D. in Computer Science	
University of Pittsburgh Swanson School of Engineering	2016-2020
Bachelor of Science in Electrical Engineering	

RESEARCH EXPERIENCE:

Graduate Researcher: October 2020-Present
Advisors- Alyson K. Fletcher, UCLA & Sundeep Rangan, NYU
- Analyzing behavior of generative models high-dimensional regimes using the neural tangent kernel
- Created custom GAN architectures in Pytorch to improve training stability and convergence rates

Amazon Applied Science Intern:
Team- SCOT; Mentor- Andrew Maurer June-September 2023
- Zero-shot product attribute classification using large language models

Team- SCOT; Mentor- Sherief Reda June-September 2022
- Capturing customer substitution signals with deep networks

Undergraduate Research Assistant: 2018-2020
Advisor- Natasa Miskov-Zivanov, University of Pittsburgh
- Developed and implemented algorithms (C++ and Python) for assembling graph-based causal networks to efficiently simulate dynamics of biological and geopolitical systems

HONORS/AWARDS:

Amazon Science PhD Fellowship	2023
NSF Graduate Research Fellowship -Honorable Mention	2020
Swanson School of Engineering Summer Research Fellowship:	2020
Stamps Foundation National Scholarship:	2016- 2020

PAPERS: *equal contributions

(2023) **Becker**, Pandit, Rangan, Fletcher. "Local Convergence of Gradient Descent-Ascent for Training Generative Adversarial Networks". Asilomar Conference on Signals, Systems and Computation

(2023) **Becker**, Zadouri, Gao, Mirzasoleiman. "High Probability Bounds for Stochastic Continuous Submodular Maximization". *AIStats*

(2022) **Becker,** Pandit, Rangan, Fletcher. "Instability and Local Minima in GAN Training with Kernel Discriminators". *NeurIPS*

(2022) Hung*, **Becker***, Zadouri*, Grover. "Conditioned Spatial Downscaling of Climate Variables". *AI for Science Workshop @ NeurIPS*

(2019) **Becker,** Bocan, Miskov-Zivanov. "Nested Event Representation for Automated Assembly of Cell Signaling Network Models". *Intl. Workshop on Static Analysis in Systems Biology (LNCS)*

(2018) Miller, Burner, **Becker,** Misra, Saba, Berti. "A Novel UAV for Interaction with Moving Targets in an Indoor Environment". *IARC Symposium on Indoor Flight Issues.* Link (Not peer-reviewed; Awarded Best Technical Paper)

PRESENTATIONS:

Local Convergence of Gradient Descent-Ascent for GANs   October 2023
- *Poster: 2023 Asilomar Conference on Signals, Systems, and Computation. Monterrey, USA*

High Probability Bounds for Stochastic Continuous Submodular Maximization: April 2023
- *Poster: 2023 Artificial Intelligence and Statistics Conference. Valencia, Spain*

Instability and Local Minima in GAN Training with Kernel Discriminators: November 2022
- *Poster: 2022 Conference on Neural Information Processing Systems. New Orleans, USA*

Nested Event Representation for Cell Signaling Networks: October 2019
- *Presentation: 10th International Workshop on Static Analysis in Systems Biology. Porto, Portugal*

Chronological Event Recording of Stimuli using CRISPR Base Editing: October 2018
- *Poster: 2018 Biomedical Engineering Society Annual Meeting. Atlanta, USA*

TEACHING ASSISTANTSHIP:

Computer Science, UCLA
- Formal Languages and Automata Theory (CS 181)   F 2021, F 2022
- Introduction to Computer Science I (CS 31)   W 2021, S 2022

ECE, University of Pittsburgh
- Digital Circuits and Systems (ECE 0201)   F 2019, F 2020
- Embedded Processors and Interfacing (ECE 0202)   S 2020, Su 2020

PROFESSIONAL SERVICE:

Reviewer (ICML, AISTATS)   2022-2023
Pittsburgh Data Jam Mentor (*Pittsburgh Dataworks)*:   2016- 2020

TECHNICAL SKILLS:

Programming Languages: Python, SQL, C++, MATLAB, Java, ARM Assembly
Machine Learning and Optimization: Pytorch, TensorFlow, Scikit-Learn, HuggingFace, OpenCV, CVXPY
Software/OS: Windows, Linux, ROS, Git, Solidworks, Eagle

GRADUATE WORKSHOPS AND SUMMER SCHOOLS:

Deep Learning Theory, *Center for Statistics and ML, Princeton University*   2021
Probabilistic AI, *Open AI Lab, Norwegian University of Science and Technology*   2021

GRADUATE COURSEWORK:

Machine Learning: Algorithmic ML, Large-Scale ML, Neural Networks and Deep Learning, Deep Generative Models, Automated Reasoning Theory
Statistics: Applied Probability, High-Dimensional Statistics, Hierarchical Linear Models, Graphical Models, Advanced Bayesian Computing
ECE: Convex Optimization, Optimization Methods for Large-Scale Systems, Information Theory, Linear System Theory, Nonlinear Dynamic Systems, Image Processing

REFERENCES:

Alyson K. Fletcher	Assistant Professor of Statistics, Computer Science, & Electrical Engineering *University of California, Los Angeles*
Sundeep Rangan	Professor of Electrical & Computer Engineering *New York University*
Natasa Miskov-Zivanov	Assistant Professor of Electrical & Computer Engineering, Bioengineering *University of Pittsburgh*