

Andrew Hard

Résumé

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Andrew Hard on Google Scholar

Skills

Scientific	Machine Learning, Federated Learning, NLP, Speech Processing, Physics, Optimization, Statistical Analysis, Simulations, Numerical Methods, Data Structures, Scientific Publication & Communication
Programming	Python, C++, TensorFlow, JAX, Java, Go, \LaTeX , Unix/Linux shell scripting, Matlab, SQL
Languages	English (native), French (basic oral and written communication), German (A1.3)

Experience

2022 - Present	Staff Software Engineer , Google <ul style="list-style-type: none">■ Drove multiple applied ML efforts and launched "OK Google" models to $\mathcal{O}(100\text{M})$ users■ Invented & productionized state-of-the-art FL algorithms with JAX & TensorFlow
2019 - 2022	Senior Software Engineer , Google <ul style="list-style-type: none">■ Researched and built first federated speech models for Assistant with TensorFlow & Python■ Managed 3 interns and 4 engineering residents on NLP and speech modeling projects■ Interviewed 150+ candidates for engineering and ML research positions
2017 - 2019	Software Engineer , Google <ul style="list-style-type: none">■ Researched and developed the first federated natural language processing (NLP) models■ Developed multi-word prediction for Gboard with TensorFlow, C++, Python
2011 - 2016	Graduate Research Assistant , <i>Department of Physics, University of Wisconsin</i> <ul style="list-style-type: none">■ Discovered Higgs boson, performed first measurements of mass, couplings, and spin■ Optimized physics searches with TB-scale datasets using classical ML techniques
2010 - 2011	CERN Technologist , <i>Enrico Fermi Institute, University of Chicago</i> <ul style="list-style-type: none">■ Developed & maintained calibration software package using Python and MySQL

Education

2016	Doctor of Philosophy in Physics <i>University of Wisconsin, Madison WI, USA</i> Thesis: <i>Search and discovery with the resonant $\gamma\gamma$ final state at ATLAS</i>
2010	Bachelor of Arts in Physics, Honors <i>University of Chicago, Chicago IL, USA</i>

Volunteering & Outreach



■ Participated in industry panel discussions and advisory board for physicists	2019, 2022
■ Repaired bicycles at the Silicon Valley Bicycle Exchange	2019
■ Demonstrated Newtonian physics concepts for Chicago Public Library	2016
■ Discussed research & funding with U.S. lawmakers in Washington D.C.	2014, 2015
■ Created GIF visualizations of Higgs boson discovery data	2013

Awards

2022	Assistant Tech Impact Award , <i>Google Inc.</i>
2015	Teaching Assistant Rookie of the Year , <i>Department of Physics, University of Wisconsin</i>
2013, 2014	Lightning Talk Winner , <i>US LHC User's Association Annual Meeting</i>