

Andrew Hard

Résumé

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Skills

Scientific	Physics, Machine Learning, Statistics, Simulations, Numerical Methods, Data Structures, High-Throughput Computing, Databases, Public Presentation
Programming	C++, Python, TensorFlow, Java, Go, \LaTeX , Unix/Linux shell scripting, ROOT, Matlab, SQL
Languages	English (native), French (basic oral and written communication), German (A1.3)

Experience

2019 - Present	Senior Software Engineer , Google <ul style="list-style-type: none">■ Researched and built federated models for Assistant with TensorFlow, Python■ TL and manager for multiple interns and projects■ Interviewed 100 candidates for engineer and ML research positions
2017 - 2019	Software Engineer , Google <ul style="list-style-type: none">■ Published first paper describing federated learning for a production model■ Researched and developed 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 machine learning techniques■ Statistical expert, created new Monte Carlo method to reduce CPU usage by 1000×
2014	Graduate Teaching Assistant , <i>Department of Physics, University of Wisconsin</i> <ul style="list-style-type: none">■ Led discussions and labs on classical mechanics, electrodynamics, thermodynamics■ Designed supplemental exercises and summary notes that boosted exam performances
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> Advised by Prof. Sau Lan Wu
2010	Bachelor of Arts in Physics, Honors <i>University of Chicago, Chicago IL, USA</i> Advised by Prof. Edward Blucher

Volunteering & Outreach



■ Participated in industry panel discussions and advisory board for physicists	2019
■ 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

2015	Teaching Assistant Rookie of the Year , <i>Department of Physics, University of Wisconsin</i>
2013, 2014	Lightning Round Winner , <i>US LHC User's Association Annual Meeting</i>