

# Arlene Siswanto

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## COURSEWORK

### Graduate Level

- 6.435 - Bayesian Modeling and Inference
- 6.883 - Machine Learning
- 6.864 - Natural Language Processing
- 6.819 - Computer Vision
- 6.840 - Theory of Computation
- 6.857 - Computer Security
- 6.S974 - Decentralized Applications

### Mathematics


- 18.650 - Statistics
- 18.615 - Stochastic Processes
- 18.600 - Probability
- 18.065 - Matrix Methods for Data Analysis and ML

## SKILLS

Languages - Python, JavaScript, C++, Java, Matlab, R  
Tools - PyTorch, JAX, Keras, Scikit-learn, React, Angular

## HACKATHONS

HackPrinceton '18 - Best AR/VR Hack, 1517 Fund Prize  
PennApps '17 - PennApps Second Place Overall  
HackMIT '17 - Best Travel App  
HackPrinceton '17 - Best Internet of Things Hack  
MakeMIT '17 - Top 10 Hack

 devpost.com/  
arlenesiswanto

 /in/arlenesiswanto

 arlenesiswanto.me

## EDUCATION

**Massachusetts Institute of Technology** | Cambridge, MA *Jun '20 - Dec '20*

- M.Eng. in Artificial Intelligence, Advisers: Michael Carbin and Jonathan Frankle
- Thesis: Block Sparsity and Weight Initialization in Neural Network Pruning

**Massachusetts Institute of Technology** | Cambridge, MA *Sep '16 - May '20*

- B.S. in Computer Science and Engineering, Minor in Mathematics

## RESEARCH & PUBLICATIONS

Decomposing Variance from Mini-Batch Order and Parameter Initialization *Google*  
Arlene Siswanto, Ben Adlam, Lechao Xiao, and Jeffrey Pennington  
*Bay Area Machine Learning Symposium, 2021* (submitted)

Reconciling Sparse and Structured Pruning: A Scientific Study of Block Sparsity *MIT*  
Arlene Siswanto, Jonathan Frankle, and Michael Carbin  
*ICLR Workshop — Science and Engineering of Deep Learning (SEDL), 2021*

Examining the Role of Normalization in the Lottery Ticket Hypothesis *MIT*  
Arlene Siswanto, Jonathan Frankle, and Michael Carbin  
*ICLR Workshop — Science and Engineering of Deep Learning (SEDL), 2021*

## WORK EXPERIENCE

**Google Brain - AI Resident** | New York, NY *Feb '21 - present*

- Developed deep learning models, performed large-scale experiments, and wrote publications toward understanding model uncertainty and robustness

**DeepMind - Research Platform Intern** | London, UK *Sep '19 - Jan '20*

- Developed alongside Research Platform Team on platform that allows researchers to perform an initial analysis of their experiments
- Expanded analyses to support non-scalar tensor data, such as images and arrays

**Shell Street Labs - Quantitative Research Extern** | Hong Kong *Jan '20 - Jan '20*

- Predicted IPO market trends through regression, topic modeling, and clustering

**Jump Trading - Software Engineering Intern** | Chicago, IL *Jun '19 - Aug '19*

- Developed on equities trading team to automate configuration verification
- Built standalone trading microplatform with real-time connections to exchanges

**Bloomberg - Software Engineering Intern** | New York, NY *Jun '18 - Aug '18*

- Developed on the Execution Management System (EMSX) trading platform, an application used by over 20,000 traders and brokers to execute orders

## PROJECTS

**Gather Town** *Fall '20*  
Early team member (<10) at startup that raised \$26M Series A at \$200M valuation, developing on a social platform that combines video calls with custom 2-D spaces

**dormsp.am** *Spring '19*  
Platform built for the MIT community that scrapes, parses, and aggregates on-campus events advertised on email with hundreds of weekly users upon release

**BeaverDocs** *Fall '18*  
A collaborative editor that allows multiple users to edit the same document without a central server using a peer-to-peer broadcasting system