

# Zelda E. Mariet

MIT graduate student – Optimization and Machine-Learning

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## Education

- 2014 - 19 **MIT** (Cambridge, USA) – **PhD**, theory and applications of determinantal models in machine-learning. Advised by Dr. Suvrit Sra; completed qualifying exams. Obtained **Master of Science** in Feb. 2016.
- 2011 - 14 **Ecole Polytechnique** (Palaiseau, France) – **Master's degree**  
Specialization in Computer Science and Mathematics. Courses include: computer-aided reasoning – information theory – differential geometry – distributions & Fourier analysis – cognitive neuroscience

## Selected publications

- 2017 **Elementary Symmetric Polynomials for Optimal Experimental Design**, *Z. Mariet, S. Sra* (NIPS 2017)
- 2016 **Kronecker Determinantal Point Processes**, *Z. Mariet, S. Sra* (NIPS 2016)  
**Diversity Networks: Neural Network Compression Using Determinantal Point Processes**, *Z. Mariet, S. Sra* (ICLR 2016)  
**Learning and Enforcing Diversity with Determinantal Point Processes** *Z. Mariet*, MSc thesis
- 2015 **Fixed-Point Algorithms for Learning Determinantal Point Processes**, *Z. Mariet, S. Sra* (ICML 2015)  
**Outlier Detection in Heterogeneous Datasets using Automatic Tuple Expansion**, *C. Pit-Claudel, Z. Mariet, R. Harding, S. Madden*, tech report

## Research experience

- 2017 **Software Engineering Intern; Google, Inc.** (New York City, New York)  
Developed theory and algorithms for high-dimensional time series prediction. Research and Machine Intelligence team.
- 2016 **Software Engineering Intern; Google, Inc.** (Mountain View, California)  
Ranking optimization, Google Maps team.
- 2014 **Research intern; Hagiwara lab, Keio University** (Yokohama, Japan)  
Analysis of the representational role of hidden layers in deep belief networks, with applications to novel techniques for early network pruning.

## Teaching experience

- 2016 **Teaching Assistant** – TA for MIT's graduate machine-learning class (450+ students)
- 2011 **Teacher and coordinator** – Taught math/physics and organized related activities for GEPPM, a French non-profit aimed at encouraging underprivileged high-school students to get a higher education.

## Spoken languages

English / French: bilingual  
German: strong skills

Japanese: strong skills (JLPT Level 3)  
Chinese: basic skills

## Awards

- 2017 Recipient of the **Criteo Faculty Research Award** program
- 2014 Accepted to the **Corps des Mines** after graduating within the top 15 at the Ecole Polytechnique
- 2013 **Silver medal** at the SWERC 2013 international algorithmics and programming contest
- 2012 **Placed 2nd** in the Ecole Polytechnique's group research project competition for creating webcam-based eye-tracking algorithms which improved over state-of-the-art methods
- 2011 **Accepted to ENS Ulm**, placing 25th in the nationwide math and physics competitive entrance exam