# ISAAC GROSOF

Computer Science Department
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## RESEARCH INTERESTS

Design and performance analysis of stochastic computer systems, including theory and implementation.
Queueing behavior and scheduling policies for resource allocation, especially in multicore systems.

## CURRENT RESEARCH

Proving the first bounds on the response time of multiserver scheduling policies in the stochastic setting. Demonstrating the optimality of the mean response time under high load of policies such as multiserver shortest remaining processing time.

## EDUCATION

**2017 - pres**: Pursuing PhD in Computer Science. Carnegie Mellon University, Pittsburgh, PA.
Advisor: Prof. Mor Harchol-Balter

**2013 - 2017**: M.E. and B.S. in Computer Science. Massachusetts Institute of Technology, Cambridge, MA. GPA 4.96/5
Master's Thesis in information-theoretic cryptography: "Secure communication: CDS, PIR, PSM"
Master's Advisor: Prof. Vinod Vaikunatanathan
Bachelor's Advisor: Prof. Frans Kaashoek

## PUBLICATIONS

Erik D. Demaine, Isaac Grosof, Jayson Lynch, and Mikhail Rudoy. "Computational Complexity of Motion Planning of a Robot through Simple Gadgets." Ninth International Conference on Fun with Algorithms. La Maddalena, Italy. 2018. (Accepted, awaiting publication)

Erik D. Demaine, Isaac Grosof, and Jayson Lynch. "Push-Pull Block Puzzles are Hard." International Conference on Algorithms and Complexity. Athens, Greece. 2017.

Benjamin Grosof, Janine Bloomfield, Paul Fodor, Michael Kifer, Isaac Grosof, Miguel Calejo, and Terrance Swift. "Automated Decision Support for Financial Regulatory/Policy Compliance, using Textual Rulelog." RuleML 2015. Berlin, Germany. 2015.

## EMPLOYMENT

**Summer 2016**: Jane Street Capital, LLC, New York City, NY.
- Software developer for non-obtrusive data collection about in-house trading.
- Software developer responsible for updating trading simulation package to accommodate new trade specification format.

**Summer 2015**: Coherent Knowledge, Seattle, WA.
- Knowledge Engineer to build demonstrations for the financial and natural language domains using the declarative logic programming language Ergo.

**2013 - 2014**: MIT Undergraduate Research Opportunities Program, Cambdridge, MA.
- Researcher in Complexity Theory proving computational hardness of block puzzles and related agent motion problems.

**Summer 2014**: EMC Isilon, Seattle, WA.
- Software developer to replace the previous ad-hoc build platform with a modern Jenkins-based build platform.

## PROJECTS

**2014 - pres**: Author of new programming language: *Pyth*
- Pyth is one of the best programming languages for solving tasks with the shortest possible programs.
- Pyth is an open-source language written in Python which has an online interpreter and detailed documentation.
- Available at `https://github.com/isaacg1/pyth`

## SKILLS

Strong mathematical background, including abstract logic, probability, and mathematical proofs.
Proficient with Python, Java, OCaml.
Experience with Haskell, C, Rust.
Experience in functional programming (e.g., Scheme) and logic programming (e.g., Prolog).
Experience with Linux, Linux shell scripting.