

# David Stein

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## EDUCATION

### NYU Law

Candidate for J.D. GPA 3.7/4 Expected 2022  
*Furman Scholar | Lederman Fellow | Staff Editor, N.Y.U. J. Legis. & Pub. Pol'y | PRG | 2020-2021 Latham & Watkins Award in Tech and Law*

### MIT

M.E. Elec. Eng. & Comp. Sci. GPA 4.2/5 2020  
S.B. Comp. Sci. & Eng. GPA 4.1/5 2011  
*Sigma Xi (Hon. Soc.) | Crew (1st boat, Div. I)*

## ACADEMIC RESEARCH

**Tech Regulation** Since Summer 2020  
Prof. Katherine Strandberg NYU Law  
*Independent Research - Comparative analysis of breach notification laws*

**Online Contracts** Since Fall 2019  
Prof. Florencia Marotta-Wurgler NYU Law  
*RA - AI augmented analysis of online contracts*

**Cryptography** Summer 2020  
Prof. Daniela Rus MIT CSAIL  
*M.Eng. - Fully encrypted facial recognition*

**Antitrust** Summer 2019  
Prof. C. Scott Hemphill NYU Law  
*RA - The role of data in monopoly power*

**Distributed Robotics** 2009 - 2011  
Prof. Daniela Rus MIT CSAIL  
*M.Eng. - Automated robotic "teamwork"*

**Satellite Design** 2008 - 2009  
Interdisciplinary MIT SEARi  
*UROP - Improving U.S. satellite design process*

## TEACHING

**Legis. and the Reg. State**  
Prof. R. Hills NYU Law Fall 2020  
*TA - Weekly review sessions and exam practice*

**Solving Complex Problems**  
Prof. A. Epstein MIT Fall 2020  
*Alumni Mentor - Experiential learning class*

**Survey of Modern Technologies**  
David Stein NYU Law July 2020  
*Presenter - Four two-hour interactive seminars*

**Elements of Software Design**  
Prof. D. Jackson MIT Fall 2010  
*TA - Bi-weekly recitations, designed homework*

**Intro to Computer Science**  
Prof. L. P. Kaelbring MIT Spring 2009  
*LA - Tutoring and in-class assistance*

## RECENT INVITED SPEAKING

**Columbia CBIPS Physical Infrastructure Cybersecurity Colloquium (2019)**

**LikeMinds 2019**

**4th IEEE International Smart Cities Conference (2019)** (declined)

**IdentityNORTH 2018** (declined)

## WORK

### Alphabet - Sidewalk Labs

*Technical Lead - Cybersecurity* May 2018 - July 2019  
Individual responsible for Sidewalk's cybersecurity strategy, including for a multi-billion dollar smart district project in Toronto. Managed remote teams of consultants. Invited industry advisor for development of Canadian "IoT" standard.

*Software Engineer - Privacy and AI* July 2017 - July 2019  
Negotiated multi-year eight-figure joint venture with major bank. Invented novel facial recognition and digital identity systems. Designed, built, and deployed AI-powered traffic control systems.

### Braze

*Director of Engineering* May 2016 - July 2017  
Led the 24-person engineering department through three major product launches, resulting in over 50% annual revenue growth and a doubling of user base. Instituted formalized processes for hiring and performance reviews. During tenure, company's private valuation doubled to roughly \$850 million.

### Dropbox

*Product Engineer - New Products* December 2014 - December 2015  
Responsible for designing and building new products and bringing them to market. Co-developed the technology driving the comments and notifications on the Dropbox website.

*Engineering Lead - Productivity* February 2013 - January 2015  
Created the "productivity team" to scale the business by reducing headcount requirements through automation. Recruited 11 engineers and a manager. Built an automated salesperson that continues to generate tens of millions of dollars in annual revenue. Designed and built automated systems for responding to subpoenas and answering support questions.

*Technical Lead - Analytics* June 2011 - June 2013  
Early employee (~20th hired). Designed and built the tools and infrastructure that are still used for user behavior research and financial reporting. Led cybersecurity response and defense efforts against a sophisticated foreign attacker.

## SHORT-TERM CONTRACTING

### Legal Consulting

*Technical Expert* Since Spring 2020  
Retained by defense in federal criminal case to build bespoke large-scale discovery tools.

### Sidewalk Infrastructure Partners

*Strategy Advising and Technical Vetting* Summer 2019  
Developed technical strategy for recently created investment fund anchored by Alphabet and Ontario Teacher's Pension Plan. Identified and vetted initial portfolio companies.

### Foursquare Labs

*Product Engineering* Winter 2016  
Assisted in "pivoting" the company from consumer to enterprise market. Designed and delivered a product that converts foot traffic data into market insights.

### Microsoft - Technical Computing Cloud Group

*Graduate Intern* Summer 2010  
Designed novel ML-based optimizations for data centers' power allocation.

## PUBLICATIONS AND PATENTS

Four peer-reviewed technical academic works, one book chapter, seven patents & patents pending. Full list available on request or at davidbstein.com/publications.

## ADDITIONAL INFORMATION

I have US/UK dual citizenship. I enjoy running in organized half-, full-, and ultra-marathons; skiing and snowboarding; playing jazz piano; baking (primarily french pastry); playing Go and designing custom electronics. I'm active in Deerfield and MIT alumni mentoring programs. I am also an investor and advisor to two startups, Vela and WayScript.

# David Stein - Publications

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## PEER-REVIEWED PAPERS

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A. Ross\*, D. Stein\*, D. Hastings,  
*Multi-Attribute Tradespace Exploration for Survivability*  
51 J. OF SPACECRAFT & ROCKETS 1735 (2014)

D. Stein<sup>†</sup>, T. Schoen, D. Rus,  
*Constraint-aware Coordinated Construction of Generic Structures*  
2011 IEEE/RSJ INT'L CONF. ON INTELLIGENT ROBOTS 4803

A. Bolger\*, M. Faulkner\*, D. Stein\*<sup>†</sup>, L. White\*, S. Yun\*, D. Rus,  
*Experiments in Decentralized Robot Construction with Tool Delivery and Assembly Robots*  
2010 IEEE/RSJ INT'L CONF. ON INTELLIGENT ROBOTS 5085

M. Richards\*, A. Ross\*, D. Stein\*, D. Hastings,  
*Multi-Attribute Tradespace Exploration for Survivability: Application to Satellite Radar*  
2009 AIAA SPACE FORUM 6728

## THESES

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David Stein, *Efficient Homomorphically Encrypted Privacy-Preserving Automated Biometric Recognition*,  
(Sept. 16, 2020) (M. Eng. thesis, MIT) (on file with MIT DSpace)

David Stein, *Constraint-Aware Coordinated Robotic Construction of Generic Structures*,  
(June 2011) (M. Eng. thesis, MIT) (unpublished) (on file with author)

## BOOK CHAPTER

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TORONTO TOMORROW: THE MASTER INNOVATION AND DEVELOPMENT PLAN FOR THE QUAYSIDE DISTRICT  
Vol. 2 Ch. 5 *Digital Innovation* (2018) (Co-author)

## PATENTS

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David Stein, John Wittrock,  
Methods, systems, and media for recovering identity information in verifiable claims-based systems  
U.S. Patent App. 16,704,602 (published Jun. 11, 2020)

David Stein, John Wittrock,  
Identity systems, methods, and media for auditing and notifying users concerning verifiable claims  
U.S. Patent App. 16,704,544 (published Jun. 11, 2020)

John Wittrock, David Stein,  
Secure methods, systems, and media for generating and authenticating user credentials  
U.S. Patent App. 16,513,295 (published Jan. 16, 2020)

David Stein, Ryan Villim, John Wittrock,  
A method using facial recognition without storing information that can be used to recognize a user's face without their permission,  
U.S. Prov. Patent App. 62,698,666 (filed 2018)

David Stein,  
Authorization review system  
U.S. Patent 9,497,253 (issued Nov. 15, 2016)

David Stein,  
Presenting data in response to an incomplete query  
U.S. Patent 9,235,636 (issued Jan. 12, 2016)

David Stein,  
Unified interface for querying data in legacy databases and current databases  
U.S. Patent App. 13,737,322 (filed Jan. 9, 2013)

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\* equal contributor (listed alphabetically)

<sup>†</sup> presenter on conference publication