

## Education

**Yale University - New Haven, CT**

Bachelor of Science, *Cum Laude* | Computer Science with Honors | May 2016

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## Work Experience

**Amazon Web Services, New York City, NY**

**AWS AI Labs | Machine Learning Engineer II | May 2019 – Current**

- Founding engineer on team developing Machine Learning Bias and Explainability products and research across ML platform.
- Designed and implemented data explainability feature for SageMaker Autopilot within 1 month of joining team pre-launch.
- Researched technological and scientific vision and strategy for 5 new product proposals reviewed by senior leadership of AWS's AI labs.
- Developed Entity Linking models on top of BERT which improved precision by 10% compared to baseline methods.

**Amazon SageMaker | Machine Learning Engineer I | Jan 2018 – May 2019**

- Researched, developed, and released [IP Insights](#), a deep learning algorithm that learns the history of users' IP addresses to identify anomalous behavior such as fraudulent logins and account takeovers.
- Discovered and removed bottlenecks in algorithm's performance by tuning MXNet's distributed training, leading to a 50% reduction in training time for 75% of the comparable cost of scaling.
- Presented a talk on scalable, distributed machine learning on MXNet at Amazon's internal developer conference to 110 attendees. Designed and facilitated [workshops](#) on machine learning and security.

**Bridgewater Associates, Westport, CT**

**Security Technology | Technology Associate | Sept 2016 – Nov 2017**

- Built a real-time analytics platform with AWS services (AWS Lambda, Kinesis, DynamoDB, CloudFormation) to transform security controls and operations from a perimeter, defensive model to a data-centric, automated-reasoning framework.
- Redesigning a batch processing architecture as a real-time, serverless, streaming framework which decreased a security control's effect time from 24 hours to sub minutes and reduced monthly costs by a factor of 10.
- Received the highest performance grade amongst the 2016 Technology Associate cohort.

## Service

**Out in Tech, New York City, NY**

**Out in Tech U | Digital Mentorship Lead, Volunteer | March 2018 – Current**

- Started Out in Tech U's digital mentorship program, where LGBTQ+ students work on projects with professional mentors over the course of 8-week semesters.
- Managed 4 volunteer coordinators to design and facilitate all digital programming for participants across the United States. Grew the program from an initial 30 participants to over 200 members annually.
- Participated in the Spring 2018 cohort as a mentor; Worked with a mentee, with no previous experience in data analysis, on how to use Python, Jupyter Notebooks, Pandas, NumPy, and Plotly to visualize the impact of America's Opioid Crises.

## Research & Publications

**Detecting suspicious IP addresses with the Amazon SageMaker IP Insights algorithm (2018)**

- Demonstrated use of the novel IP Insights algorithm for detecting malicious activity on an internal dataset of AWS Console Logins. Our method achieved equal true positive rate as compared to alternative methods but reduced the false positive rate from 20% to 10%. *Published on the [AWS Machine Learning Blog](#).*

**DeepSurv: Personalized Treatment Recommender System Using A Cox Proportional Hazards Deep Neural Network (2018)**

- Researched the application of deep neural networks to survival analysis and demonstrated a deep neural network's ability to predict the risk of an event occurring (i.e. death of a patient).
- Demonstrated state-of-the-art performance in predicting a patient's risk of death and providing them with a personalized treatment recommendation.
- Released an open-source Python [package](#) with a Docker framework to increase the reproducibility of experiments.
- Presented at the *International Conference of Machine Learning Computational Biology Workshop 2016*. Published in the journal *BMC Medical Research Methodology*.

## Research & Publications (cont.)

### **White House LGBTQ Tech & Innovation Summit Project: #transneeds (2016)**

- Ran a [social-media listening campaign](#) to gather data on trans health issues. Analyzed over 12,000 responses and presented findings as policy recommendations to the U.S. Federal Government.

### **Partisan Pastor: Political Science Research Assistant (2016)**

- Studied the politization of churches and the influence of church leaders as part of the political elite. Wrote a web scraper in Python to help construct a novel dataset to study political affiliation of religious leaders.

## New Media & Arts

### **Mutual Wayfinding (2020)**

Used neural networks to generate natural language in response to digital paintings and used the passages as prompts for photographic interpretation to explore the ways ‘conventional definitions’ of online discourse relate to our external-physical world and our inner-psychological world.

### **New York Live Arts Act Labs Fellow (2019)**

Developed and pitched idea for a musical cabaret using NLP and new story telling techniques to address the mental health crisis in the LGBTQ+ community.

## Competitions, Fellowships, and Leadership Development

### **Shalom Hartman Institute iEngage Fellowship for Student Leaders (2015)**

Program to study negotiation and conflict resolution in context of the Israeli-Palestinian Conflict at Israeli think-tank.

### **Elisa Spungen Bildner '75 and Robert Bildner '72 Israel Travel Grant (2015)**

Travel fellowship to study in Israel. Supported software engineering internship at Mellanox Technologies in Ra'anana, Israel.

### **US Air Force's CyberPatriot Open Division National Champions (2011)**

Secured and defended simulated networks from hackers and real-time security threats. Worked with various vulnerability analysis and prevention tools. Won the Optional Division National Championships in 2011.

### **American Legion's NJ Boys State (2011)**

Weeklong leadership program simulating NJ's state government to learn about local, state, and national politics.

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## Skills & Recognition

**Awards:** US Air Force CyberPatriot – Open Division National Champions, ACS Organic Chemistry Exam – 100<sup>th</sup> Percentile

**Certifications:** CompTIA Networking (2011), Security+ (2012)

**Personal Interests:** Tai Chi (Guang Ping Yang), Art (Sumi Ink), Reading (Fiction & Non-fiction), Meditation, Cooking, Traveling and the Outdoors