

# HARRISON DAVIS

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## EMPLOYMENT

### STASH INVEST

Backend Engineer, Tech Lead - Coach · New York, NY

Feb. 2017 to Current

5th backend engineering hire, recruited to scale platform and engineering org (currently 70 members)

#### Coach

- Define technical roadmap and lead technical decisions for Coach, Stash's personalized financial adviser
- Design and lead implementation of Kafka based architecture
- Plan and scope a lift-and-shift migration from Stash's monolith backend to a disjoint micro-service (Ruby on Rails)
- Key achievement: reduced Coach's system footprint by approximately 75% with new architecture

#### Smart Save

- Designed, prototyped, and built Smart-Save, an algorithm that analyzes your spending habits to automatically invest spare cash
- Built Stash's first micro-service to run Smart-Save algorithm (Scala, Play)
- Featured on Product Hunt: <https://www.producthunt.com/posts/smart-save-by-stash>

#### Data Engineering

- Founded and scaled data team (currently 30 members)
- Built core data infrastructure (AWS Redshift, AWS Lambda, Apache Airflow, Spark, Scala, Python)
- Built and supported ETL integration with Plaid, a third-party financial data provider
- Designed and led implementation of data APIs

#### Team Leadership

- Redesigned team process to reduce inefficiencies and increase team's sprint velocity by approximately 2x
- Lead integrations and serve as technical point-person for Ladder and Lemonade, our third-party insurance partners
- Built and lead interview and on-boarding processes for Data Science and Data Engineering
- On-boarded VP of Data Science and Director of Data Engineering and transitioned teams to their leadership

#### Other Achievements

- Architected the API for the home feed, a core in-app experience that integrates with several stakeholders
- Built other products including search, IRA accounts, and product recommendations
- Won awards at company hackathons for projects including a Chrome extension and social portfolios

### EBAY INC

Software Engineer 3 - Applied Research · New York, NY

Aug. 2014 to Feb. 2017

Member of combined data science/engineering team responsible for item discovery and user personalization on eBay marketplaces

#### Aspect Graph

- Researched, designed, and implemented the Aspect Graph, a graph framework of eBay's unstructured product data
- Designed a greedy graph traversal algorithm to leverage the Aspect Graph and build personalized topics that help identify in realtime both what users are shopping for and why
- Utilized graph research to iteratively build personalization algorithms on top of the Aspect Graph
- Surpassed all of team's quarterly testing goals, applying the Aspect Graph across several placements on the site (e.g. Search, Item pages)

#### Homepage Redesign

- Leveraged Aspect Graph to build personalization algorithms for eBay's new homepage to keep track of where users are in the browsing process
- Led implementation of these recommendation APIs
- Algorithms provided flexibility to rethink and rebuild eBay's core browsing experience, which has powered the homepage since 2016
- Sample press release: <https://appadvice.com/post/in-time-for-your-holiday-shopping-ebay-for-ios-makes-browsing-easier/727367>

#### Achievements

- Awards: Spot Award Q4 2014, Spot Award Q4 2015, Critical Talent Award Q4 2015
- Promoted to Software Engineer 2 Q2 2015 and Software Engineer 3 Q2 2016
- Patent Pending: Generating a Discovery Page Depicting Item Aspects

May 2013 to Aug. 2013

Software Engineering Intern · New York, NY

- Researched machine learned algorithm to identify and recommend unique items for the homepage feed
- Initiated research of social media interactions with the marketplace

### MAYOR'S OFFICE OF DATA ANALYTICS

Technology Consultant - Pro Bono · New York, NY

Dec. 2017 to Dec. 2018

- Integrate the city into Waze's Connected Citizens Program
- Collaborate with city governments across the country on behalf of the Mayor's Office of Data Analytics to design and build software that makes cities more efficient

### CORNELL CHORDIALS

Music Director · Ithaca, NY

Sept. 2011 to May 2014

- Lead all aspects of the group, including auditions, rehearsals, and performances (15-20 hours per week)
- Produced full length album "The Shadow Aspect" (featured on Voices Only 2013 and Sing 10, rated 4.7/5.0 on RARB.org, received 3 Contemporary A Cappella Recording Awards nominations)
- 3rd place at 2013 International Championship of A Cappella
- Named one of "Ten Can't Miss American Collegiate A Cappella Groups of 2013" on [acappellablog.com](http://acappellablog.com)

## EDUCATION

### CORNELL UNIVERSITY

Sept. 2010 to May 2014

B.S. Computer Science 2014

Honors: Engineering Global Fellow, Outstanding Member of the Class of 2014

Activities: Association of Computer Science Undergraduates, Lightweight Varsity Football, Chi Phi Fraternity, Cornell Chordials, Cornell LeaderShape Institute

### UNIVERSITY OF PENNSYLVANIA

June 2012 to Aug. 2012

Penn-in-London

Coursework: London Theatre, Documentary Writing: George Orwell and London

## PROJECTS

### Open Government Coalition

- A network of city governments pooling technical talent to collaborate on projects with reproducible, impactful results, saving time and money

### MIT App Inventor

- Contributor through Facebook Open Academy

## VOLUNTEERING

### Musicians on Call

June 2016 to Current

Guide · Mount Sinai West Hospital

### Cornell Alumni Admissions Ambassador

May 2016 to Current

Network

Volunteer · New York, NY

### Code.org

Sept. 2016 to Current

Hour of Code · New York, NY

The Leukemia & Lymphoma Society Dec. 2014 to Current  
Team In Training

## SKILLS

Python, Scala, Java, Ruby on Rails, OCaml, SQL, Hadoop, Spark, Pig, Recommender Systems, AWS, Data Mining, Algorithms, Research, Agile, Product Management