

# Firas Abuzaid

## Curriculum Vitae

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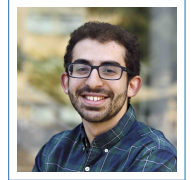
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### Education

- 2016-present **Ph.D., Computer Science**, Stanford University  
Advisors: Peter Bailis and Matei Zaharia
- 2015-2016 **Ph.D., Course VI-II**, Massachusetts Institute of Technology  
Advisors: Sam Madden and Matei Zaharia
  - Transferred to Stanford in Fall 2016 with advisor
- 2013-2015 **M.S., Computer Science**, Stanford University  
Advisor: Christopher Ré
  - Concentrations: Artificial Intelligence, Information
- 2009-2013 **B.S., Computer Science**, Stanford University  
Concentration: Information
  - Phi Beta Kappa, Tau Beta Pi

### Publications

- 2019 F. Abuzaid, G. Sethi, P. Bailis, and M. Zaharia **To Index or Not to Index: Optimizing Exact Maximum Inner Product Search**. To appear at ICDE 2019.
- 2019 F. Abuzaid, P. Kraft, S. Suri, E. Gan, E. Xu, A. Shenoy, A. Anathanarayan, J. Sheu, E. Meijer, X. Wu, J. Naughton, P. Bailis, and M. Zaharia. **DIFF: A Relational Interface for Large-Scale Data Explanation**. To appear at VLDB 2019.
- 2018 F. Abuzaid, P. Bailis, J. Ding, E. Gan, S. Madden, D. Narayanan, K. Rong, and S. Suri (equal co-authorship). **MacroBase: Prioritizing Attention in Fast Data**. TODS 2018.
- 2018 S. Palkar, F. Abuzaid, P. Bailis, and M. Zaharia. **Filter Before You Parse: Faster Analytics on Raw Data with Sparser**. VLDB 2018.
- 2017 D. Kang, J. Emmons, F. Abuzaid, P. Bailis, and M. Zaharia. **NoScope: Optimizing Neural Network Queries over Video at Scale**. VLDB 2017.
- 2016 F. Abuzaid, J. Bradley, F. Liang, A. Feng, L. Yang, M. Zaharia, and A. Talwalkar. **Yggdrasil: An Optimized System for Training Deep Decision Trees at Scale**. NIPS 2016.
- 2015 S. Hadjis, F. Abuzaid, C. Zhang, and C. Ré. **Caffe con Troll: Shallow Ideas to Speed Up Deep Learning**. SIGMOD 2015, DanaC: Workshop on data analytics at scale.

### Invited Talks

- 2018 **MacroBase: Prioritizing Attention in Big Data**, ODSC West 2018.
  - <https://odsc.com/training/portfolio/macrobases-prioritizing-human-attention-in-big-data-2>
- 2018 **Sparser: Faster Parsing of Unstructured Data Formats in Apache Spark**, Spark+AI Summit 2018.
  - <https://databricks.com/session/sparser-faster-parsing-of-unstructured-data-formats-in-apache-spark>
- 2017 **MacroBase: Prioritizing Attention in Fast Data**, HPTS 2017.
  - <http://www.hpts.ws/papers/2017/macrobases-hpts.pdf>
- 2016 **Yggdrasil: Faster Decision Trees Using Column Partitioning In Spark**, Spark Summit 2016.
  - <https://databricks.com/session/yggdrasil-faster-decision-trees-using-column-partitioning-in-spark>

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## Work Experience

### Research

- 02/2018–present **Research Contractor**, *Facebook*, Menlo Park, CA
- Developed and deployed Spark pipeline for MacroBase (<https://macrobase.stanford.edu>) to automatically explain anomalies in large-scale datasets for Facebook's Infrastructure organization
  - Currently working with FBLeaer organization to develop optimization strategies for improving resource efficiency of FBLeaer's Inference Platform
- 04/2014–06/2015 **Research Assistant**, *Stanford InfoLab*, Prof. Christopher Ré
- Developed Caffe con Troll, CPU optimizer for Caffe. Resulted in publication
    - <http://github.com/HazyResearch/CaffeConTroll>
  - Worked on multi-round Pregel-like join algorithm for distributed datasets
  - Technologies and Libraries:** Scala, Spark, SparkSQL, Hive, YARN, Hadoop/HDFS
- 01/2014–03/2014 **Independent Research Project**, *Stanford AI Lab*, Prof. Andrew Ng
- Worked on re-alignment improvements for deep neural networks on speech recognition systems
  - Technologies and Libraries:** C++, Python, Kaldi, Google Web Speech API

### Industry

- 06/2012–09/2012 **Android Engineer Intern**, *Clinkle*, Mountain View, CA
- Initial implementation of the Clinkle Android application
- 06/2011–09/2011 **Software Engineer Intern**, *Amazon Lab126*, Cupertino, CA
- Developed QuickSettings app for Kindle Fire; debugged, refined UI/UX for other system apps on Android 2.3.3

### Teaching

- 2014–2015 **Awards**
- Recipient of the 2014 Centennial Teaching Assistant Award
- 2014–2015 **Instructor**, *Stanford Computer Science Department*
- CS145**, *Introduction to Databases*, Co-Instructor with Perth Charernwatttanagul, Summer 2014
- 2014–2015 **Mentor in Teaching Fellow**, *Stanford Computer Science Department*
- Responsible for assisting and mentoring new Teaching Assistants for the CS department
- 2013–2015 **Teaching Assistant**, *Stanford Computer Science Department*
- CS142**, *Web Applications*, Profs. John Ousterhout and Phillip Levis, Spring 2013 - Spring 2014
  - CS145**, *Introduction to Databases*, Profs. Christopher Ré and Jennifer Widom, Fall 2013 - Fall 2014
- 2011–2012 **CS198 Section Leader**, *Stanford Computer Science Department*
- Responsible for leading weekly discussion sections to complement lecture for introductory Computer Science classes – CS106A, B, and X

### Legal

- 06/2018–present **Expert Consultant for Technical Patent Litigation**, *Shearman & Sterling, LLP*
- Vendavo, Inc. v. Price f(x) AG et al**, Analyzed and compared Vendavo's and Price f(x)'s respective code bases using state-of-the-art source code comparison techniques. Demonstrated that Price f(x)'s source code was not in violation of Vendavo's copyright protections
  - Additional cases**, Examined patent infringement claims filed against the defendants; for each, identified prior art to invalidate the claims

### Other

- 01/2014–01/2015 **Master's Student Liaison**, *Stanford Computer Science Department*
- Responsible for communicating and voicing students' feedback and concerns to CS faculty
- 2011–2012 **Academic Theme Associate**, *Stanford Residential Education*
- Residential staff position – responsible for creating and planning theme-related programming for the Crothers Global Citizenship dorm