

Andrew Crotty

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EDUCATION

Ph.D., Computer Science Brown University	2019 <i>Providence, RI</i>
Sc.M., Computer Science Brown University	2015 <i>Providence, RI</i>
B.A., Computer Science Boston College	2013 <i>Chestnut Hill, MA</i>

RESEARCH EXPERIENCE

Postdoctoral Fellow Carnegie Mellon University, Computer Science Department	2021 – Present <i>Pittsburgh, PA</i>
Postdoctoral Research Associate Brown University, Computer Science Department	2021 – Present <i>Providence, RI</i>
Research Consultant Snowflake Inc.	2021 – Present <i>Pittsburgh, PA</i>
Postdoctoral Research Associate Brown University, Data Science Initiative	2019 – 2021 <i>Providence, RI</i>
Research Intern Intel Labs, Parallel Systems Group	Summer 2015 <i>Santa Clara, CA</i>
Graduate Research Assistant Brown University, Computer Science Department	2013 – 2019 <i>Providence, RI</i>

TEACHING EXPERIENCE

15-445/645: Database Systems Carnegie Mellon University	Fall 2021 <i>Co-Instructor</i>
CSCI 1270: Database Management Systems Brown University	Fall 2014 <i>Graduate Teaching Assistant</i>
CSCI 2257: Database Systems and Applications Boston College	Spring 2011, Spring 2012 <i>Teaching Assistant</i>

PROFESSIONAL EXPERIENCE

Oracle APEX Consultant Brown University, Psychiatry Department	2016 – Present <i>Providence, RI</i>
Oracle APEX Developer Boston College, Budget Office	2011 – 2013 <i>Chestnut Hill, MA</i>
Oracle APEX Developer Boston College, University Core Systems	2010 – 2011 <i>Chestnut Hill, MA</i>

AWARDS & HONORS

Google Ph.D. Fellowship: Awarded for work in the *Systems and Networking* area (2016 – 2018)

VLDB Best Demo: Awarded for *Vizdom: Interactive Analytics through Pen and Touch* (2015)

Research Grants: Amazon AWS Cloud Grant (2019), Google Cloud Grant (2019)

PUBLICATIONS

Conferences & Journals

- [1] Andrew Crotty, Viktor Leis, and Andrew Pavlo. Are You Sure You Want to Use MMAP in Your Database Management System? *CIDR*, 2022.
- [2] Franco Solleza, Andrew Crotty, Suman Karumuri, Nesime Tatbul, and Stan Zdonik. Mach: A Pluggable Metrics Storage Engine for the Age of Observability. *CIDR*, 2022.
- [3] Andrew Crotty. Hist-Tree: Those Who Ignore It Are Doomed to Learn. In *CIDR*, 2021.
- [4] Andrew Crotty, Alex Galakatos, Connor Luckett, and Ugur Çetintemel. The Case for In-Memory OLAP on “Wimpy” Nodes. In *ICDE*, pages 732–743, 2021.
- [5] Andrew Crotty, Alex Galakatos, and Tim Kraska. Getting Swole: Generating Access-Aware Code with Predicate Pullups. In *ICDE*, pages 1273–1284, 2020.
- [6] Amir Ilkhechi, Andrew Crotty, Alex Galakatos, Yicong Mao, Grace Fan, Xiran Shi, and Ugur Çetintemel. DeepSqueeze: Deep Semantic Compression for Tabular Data. *SIGMOD*, 2020.
- [7] Nathaniel Weir, Prasetya Utama, Alex Galakatos, Andrew Crotty, Amir Ilkhechi, Shekar Ramaswamy, Rohin Bhushan, Nadja Geisler, Benjamin Hattasch, Steffen Eger, Ugur Çetintemel, and Carsten Binnig. DBPal: A Fully Pluggable NL2SQL Training Pipeline. *SIGMOD*, 2020.
- [8] Alex Galakatos, Andrew Crotty, Emanuel Zraggen, Carsten Binnig, and Tim Kraska. Revisiting Reuse for Approximate Query Processing. *PVLDB*, 10(10):1142–1153, 2017.
- [9] Emanuel Zraggen, Alex Galakatos, Andrew Crotty, Jean-Daniel Fekete, and Tim Kraska. How Progressive Visualizations Affect Exploratory Analysis. *TVCG*, 23(8):1977–1987, 2017.
- [10] Carsten Binnig, Andrew Crotty, Alex Galakatos, Tim Kraska, and Erfan Zamanian. The End of Slow Networks: It’s Time for a Redesign. *PVLDB*, 9(7):528–539, 2016.
- [11] Andrew Crotty, Alex Galakatos, Kayhan Dursun, Tim Kraska, Carsten Binnig, Ugur Çetintemel, and Stan Zdonik. An Architecture for Compiling UDF-centric Workflows. *PVLDB*, 8(12):1466–1477, 2015.
- [12] Andrew Crotty, Alex Galakatos, Kayhan Dursun, Tim Kraska, Ugur Çetintemel, and Stanley B. Zdonik. Tupleware: “Big” Data, Big Analytics, Small Clusters. In *CIDR*, 2015.

Demos & Workshops

- [1] Connor Luckett, Andrew Crotty, Alex Galakatos, and Ugur Çetintemel. Odlaw: A Tool for Retroactive GDPR Compliance. In *ICDE*, pages 2709–2712, 2021.
- [2] Nathaniel Weir, Andrew Crotty, Alex Galakatos, Amir Ilkhechi, Shekar Ramaswamy, Rohin Bhushan, Ugur Çetintemel, Prasetya Utama, Nadja Geisler, Benjamin Hattasch, Steffen Eger, and Carsten Binnig. DBPal: Weak Supervision for Learning a Natural Language Interface to Databases. In *CAST@VLDB*, 2019.
- [3] Carsten Binnig, Fuat Basik, Benedetto Buratti, Ugur Çetintemel, Yeounoh Chung, Andrew Crotty, Cyrus Cousins, Dylan Ebert, Philipp Eichmann, Alex Galakatos, Benjamin Hättasch, Amir Ilkhechi, Tim Kraska, Zeyuan Shang, Isabella Tromba, Arif Usta, Prasetya Utama, Eli Upfal, Linnan Wang, Nathaniel Weir, Robert C. Zeleznik, and Emanuel Zraggen. Towards Interactive Data Exploration. In *BIRTE@VLDB*, pages 177–190, 2017.
- [4] Philipp Eichmann, Andrew Crotty, Alexander Galakatos, and Emanuel Zraggen. Discrete Time Specifications In Temporal Queries. In *CHI Extended Abstracts*, pages 2536–2542, 2017.
- [5] Andrew Crotty, Alex Galakatos, Emanuel Zraggen, Carsten Binnig, and Tim Kraska. The Case for Interactive Data Exploration Accelerators (IDEAs). In *HILDA@SIGMOD*, 2016.
- [6] Andrew Crotty, Alex Galakatos, Emanuel Zraggen, Carsten Binnig, and Tim Kraska. Vizdom: Interactive Analytics through Pen and Touch. *PVLDB*, 8(12):2024–2027, 2015.

Miscellaneous

- [1] Andrew Crotty, Alex Galakatos, Emanuel Zraggen, and Tim Kraska. Visual Analytics and Machine Learning. In *Managing Heterogeneous Data and Polystore Databases*. To appear.
- [2] Andrew Crotty. NullDB: Instantaneously Answering Any OLAP Query. In *CIDR*, 2019.
- [3] Alex Galakatos, Andrew Crotty, and Tim Kraska. Distributed Machine Learning. In *Encyclopedia of Database Systems, Second Edition*. 2018.
- [4] Carsten Binnig, Ugur Çetintemel, Tim Kraska, Stanley B. Zdonik, Erfan Zamanian, and Andrew Crotty. I-Store: Data Management for Fast Networks. In *NEDB*, 2015.
- [5] Andrew Crotty, Alex Galakatos, and Tim Kraska. Tupleware: Distributed Machine Learning on Small Clusters. *IEEE Data Eng. Bull.*, 37(3):63–76, 2014.

SERVICE

Professional

- **Program Committee:** SIGMOD '23, VLDB Demo '22, VLDB '20
- **Reviewer:** SIGMOD '18, IEEE Data Engineering Bulletin '17, OSDI '16, ICDE '16, SIGMOD '15, HotCloud '14, SIGMOD '14, ICDE '14, SoCC '13

University

- **Panelist:** Brown CS Application Feedback Program for Underrepresented Applicants (2020)
- **Mentor:** Brown Applied Math Directed Reading Program (2019)
- **Member:** Brown CS Ph.D. Admissions Committee (2016, 2019)
- **Coordinator:** Brown Data Science Initiative seminar (2019 – 2021), Brown DB Group seminar (2014 – 2015, 2018 – Present), Brown CS faculty search Ph.D. student engagement (2018)

MENTORING

Carnegie Mellon University

- **Kyle Dotterer** (M.S., 2021 – Present)
- **Ying Jiang** (M.S., 2021 – Present)
- **Nevin Zheng** (M.S., 2021 – Present)
- **Yuchen Liang** (B.S., 2021 – Present)
- **Lingxi Zhang** (B.S., 2021 – Present)

Brown University

- **Franco Solleza** (Ph.D., 2021 – Present)
- **Jiwon Choe** (Ph.D., 2020 – Present)
- **Connor Lockett** (Ph.D., 2019 – Present)
- **Amir Ilkhechi** (Ph.D., 2018 – Present)
- **Kayhan Dursun** (Ph.D., 2018 – 2019), now Software Engineer at Micro Focus Vertica
- **Chris Cataldo** (Sc.M., 2019 – 2021), now Senior Backend Programmer at Esports Entertainment Group
- **Qiming Shao** (Sc.M., 2015 – 2016), now Senior Software Development Engineer at Amazon
- **Elkhan Dadashov** (Sc.M., 2014 – 2015), now Senior Software Engineer at Apple
- **Xinyi Lu** (Sc.M., 2013 – 2014), now Senior Software Engineer at Microsoft

- **Valay Shah** (Sc.M., 2013), now Senior Software Development Engineer at Amazon
- **Mert Terzihan** (Sc.M., 2013), now Machine Learning Engineer at Facebook
- **Chun-Che Wang** (Sc.M., 2013), now Senior Software Engineer at Instacart
- **Jake Polatty** (Sc.B., 2020 – Present)
- **William Zhang** (Sc.B., 2020 – Present)
- **Rohin Bhushan** (Sc.B., 2019 – 2020), now Software Engineer at Facebook
- **Grace Fan** (Sc.B., 2019 – 2020), now Ph.D. student at Northeastern University
- **Shekar Ramaswamy** (Sc.B., 2019 – 2020)
- **Xiran Shi** (Sc.B., 2019 – 2020), now M.Sc. student at Stanford University
- **Andrew Wei** (Sc.B., 2019 – 2020), now Software Engineer at Facebook
- **Nathaniel Weir** (Sc.B., 2019 – 2020), now Ph.D. student at Johns Hopkins University
- **Oh Joon Kwon** (Sc.B., 2019), now Graduate Researcher at KAIST
- **Cori Williams** (Sc.B., 2019), now Software Engineer at IonQ Inc.
- **Yicong Mao** (Sc.B., 2018 – 2020), now Software Engineer at Microsoft
- **Evan Fuller** (Sc.B., 2015), now Senior Software Engineer at Nightfall AI
- **Rahul Kuchibhatla** (Sc.B., 2015), now Software Engineer at Google
- **Eden Weizman** (Sc.B., 2015), now Software Engineer at Google
- **John Ribbans** (Sc.B., 2014 – 2015)
- **Gabe Lyons** (Sc.B., 2014), now Founding Engineer at Acryl Data
- **Anna Herlihy** (Sc.B., 2013 – 2014), now Ph.D. student at EPFL
- **Pat Maiden** (Sc.B., 2013), now Product Manager at Google
- **Joe Crotty** (Research Intern, 2014), now Vice President at Goldman Sachs
- **Vanessa Volz** (Research Intern, 2013), now Researcher at modl.ai

REFERENCES

Tim Kraska (Ph.D. Advisor)

Associate Professor, Electrical Engineering and Computer Science
 Massachusetts Institute of Technology, Cambridge, MA
 Website: <https://people.csail.mit.edu/kraska/>
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