

HAMISH NICHOLSON

PhD Candidate

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TECHNICAL SKILLS

- **Programming Languages:** Proficient in C/C++ (14/17/20) and Python. Learning Rust. Experience in SQL, OCaml and Scala
- **Operating Systems:** Mac OS and Linux, particularly the Linux IO stack
- **Tooling:** GDB, VTune, Perf, Git, Vim, Make, CMake, Bazel
- **Misc:** Excel and PowerPoint

EDUCATION

EPFL - École Polytechnique Fédérale de Lausanne

PhD. in Computer Science

September 2021 - Present

Lausanne, Switzerland

- **Tentative thesis:** Taming the Storage Hierarchy
- **Advisor:** Prof. Anastasia Ailamaki

Harvard University

A.B. with High Honors in Computer Science

September 2016 - May 2021

Cambridge, MA

- **Thesis:** *Psychophysical Evaluation of Deep Re-Identification Models*
- **Coursework:**
 - Data Systems, Machine Learning, Cloud Computing
 - Probability and Statistics
 - Abstract Algebra, Linear Algebra, Multivariable Calculus

EXPERIENCE

EPFL DIAS

Doctoral Assistant

September 2021 - Present

Lausanne, Switzerland

- Mentor masters student research projects
- Manage the lab's server infrastructure

Ocient

Software Engineer I/II

September 2020 - September 2021

Chicago, IL

- Transitioned the build system from Make to Bazel, accelerating developer productivity
- Worked on user access control and secondary index features

Fractal Computers (now Whist)

Software Engineer

May 2020 - August 2020

Cambridge, MA

- Developed a new build system for a multi platform application.
- Designed and built a continuous integration pipeline, significantly reducing the number of bugs deployed to production

Perceptive Automata

Data Science Intern

June 2019 - September 2019

Somerville, MA

- Integrated techniques from psychology and computer vision to better understand pedestrian re-identification performance under degraded conditions.

Jet Propulsion Laboratory - NASA

Data Science Intern

June 2018 - September 2018

Pasadena, CA

- Processed data from the Juno mission to analyze the upper atmosphere of Jupiter

PUBLICATIONS

- Hamish Nicholson, Aunn Raza, Periklis Chrysogelos, and Anastasia Ailamaki (2023). "HetCache: Synergising NVMe Storage and GPU acceleration for Memory-Efficient Analytics". In: *13th Conference on Innovative Data Systems Research, CIDR 2023, Amsterdam, NL, January 8-11, 2023*.
- Hamish Nicholson, Periklis Chrysogelos, and Anastasia Ailamaki (2022). "HPCache: Memory-Efficient OLAP Through Proportional Caching". In: *International Workshop on Data Management on New Hardware, DaMoN 2022, Philadelphia, PA, USA, 13 June 2022*. ACM. URL: <https://doi.org/10.1145/3533737.3535100>.
- Mel McCurrie, Hamish Nicholson, Walter J. Scheirer, and Samuel E. Anthony (2020). "Modeling Score Distributions and Continuous Covariates: A Bayesian Approach". In: *2020 IEEE International Joint Conference on Biometrics, IJCB 2020, Houston, TX, USA, September 28 - October 1, 2020*. IEEE. URL: <https://doi.org/10.1109/IJCB48548.2020.9304938>.

TALKS

- *Flash-based GPU-accelerated Queries*, HPTS 2022, Asilomar, USA, October 2022

SERVICE

- SIGMOD 2023 Availability Committee

TEACHING

EPFL

TA for CS-119g: Information, Calculation, Communication

📅 Fall 2022

TA for CS-322: Introduction to Database Systems

📅 Spring 2022

Harvard

Tutor for CS-51: Abstraction and Design in Computation

📅 Spring 2018

CA for CS-50: Introduction to Computer Science

📅 Fall 2017

HONORS AND AWARDS

- EPFL IC Distinguished Service Award 2022
- EPFL EDIC Ph.D. Fellowship 2021

LANGUAGES

- Fluent: English
- Elementary: French

CITIZENSHIP

- Australian
- American
- Canadian