

Jack Waudby | Curriculum Vitae

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📄 [jack-waudby](#) • 🔄 [jackwardby](#) • 🐦 [jwardberry](#)

Education

PhD Computer Science <i>Newcastle University</i> Thesis: "High Performance Concurrency Control & Commit Protocols in Distributed Databases" Advisor: Dr. Paul Ezhilchelvan	2017–2022
MSc Statistics: Distinction <i>Lancaster University</i> Dissertation: "Spatial and temporal modelling of antibiotic resistant Salmonella in cattle across England and Wales" Advisor: Dr. Chris Sherlock	2015–2016
BSc (Hons) Economics & Mathematics: First <i>Lancaster University</i>	2012–2015

Positions

Software Engineer: Neo4j, Clustering Team, London, UK	2022 – Present
Host: Disseminate: The Computer Science Research Podcast, Remote	2022 – Present
Distributed Systems Engineer (Intern): Neo4j, Clustering Team, Remote	2021
Ski Instructor: Ecole Sur Neige Tremblant, Quebec, Canada	2017
Mathematics Tutor: South Holderness Sixth Form, Hull, UK	2016

Research interests

High-performance concurrency control and commit protocols.
Data consistency in distributed graph databases.
Benchmarking of graph databases.

Selected publications

🔗 DBLP • 📄 Google Scholar

- J Waudby, P Ezhilchelvan, I Mitrani, J Webber, "A Performance Study of Epoch-based Commit Protocols in Distributed OLTP Databases", *SRDS*, 2022.
- A Mhedhbi, M Lissandrini, L Kuiper, J Waudby, G Szárnyas "LSQB: a large-scale subgraph query benchmark," *GRADES-NDA@SIGMOD*, ACM, pp. 1–11, 2021, [doi:10.1145/3461837.3464516](#)
- J Waudby, P Ezhilchelvan, J Webber, I Mitrani, "Preserving Reciprocal Consistency in Distributed Graph Databases", *PaPoC@EuroSys*, ACM, pp. 1–7, 2020, [doi:10.1145/3380787.3393675](#)

Research tools

- **Spaghetti.** A single-node many-core evaluation framework for concurrency control protocols. *Tasks:* designing the framework; implementing multiple concurrency control protocols; running performance experiments; visualizing and analyzing the results. 🔄
- **Epoch-sim.** A suite of analytical models and simulation programs for determining the optimal epoch length in various epoch-based two-phase commit protocols for distributed databases. *Tasks:* protocol design; simulation design and implementation; running performance experiments; visualizing and analyzing the results. 🔄

International collaborations

I'm a member of the Linked Data Benchmark Council (LDBC) Social Network Benchmark Task Force. LDBC is a continuation of the EU FP7 project of the same name (2012–2015). LDBC aims to improve the state-of-the-art

in graph processing by proposing graph benchmarks and providing a platform for researchers to conduct informal collaborations. I help design benchmarks for modern graph databases and facilitate their adoption. 🔄




Research visits

Centrum Wiskunde & Informatica (CWI) <i>Developing the LDBC Business Intelligence Workload</i>	Amsterdam, The Netherlands 2022 Feb
Budapest University of Technology and Economics (BME) <i>Developing the LDBC Datagen v0.4.0</i>	Budapest, Hungary 2020 Feb
Centrum Wiskunde & Informatica (CWI) <i>Extending the LDBC Social Network Benchmark Suite</i>	Amsterdam, The Netherlands 2020 Jan

Awards and scholarships

EPSRC studentship for the PhD in Cloud Computing for Big Data: Newcastle University	2017-2021
School of Computing PhD Poster Competition, 2nd place: Newcastle University	2018
Level 2 Certification: Canadian Ski Instructors' Alliance	2017
Tessella Industrial Prize for Best Computational MSc Statistics project: Lancaster University	2016
Medical Research Council studentship: Lancaster University	2015-2016

Selected talks

- **SRDS.** "A Performance Study of Epoch-based Commit Protocols in Distributed OLTP Databases", *SRDS*, Vienna, September 2022 
- **TPCTC.** "Towards Testing ACID Compliance in the LDBC Social Network Benchmark", *TPCTC@VLDB*, August 2020 
- **PaPoC.** "Preserving Reciprocal Consistency in Distributed Graph Databases", *PaPoC@EuroSys*, April 2020 

Languages & Skills

Proficient in several languages: Rust, Java, R, SQL, Cypher, and LaTeX. Experienced with Git, GitHub, Docker, and Microsoft Azure. Native English speaker. Studied French, Beginner to Upper Intermediate, as part of Newcastle University's University Wide Language Programme (2017-2021).

Interests

Sports: junior professional football academies (Grimsby Town and Leeds United), university-level football (Lancaster University Men's Football Club), karate (brown belt "3rd Kyu" in Wado-Ryu), swimming (competitive level for Kingston upon Hull and South Holderness swimming clubs), ice skating (National Ice Skating Association Level 10). *Volunteering:* Chairman of Lancaster University Men's Football Club, responsible for securing club sponsorship from the Hyundai Motor Company and working with Morecambe Football Club to provide training and sports science advice. Lifeguard/Swimming Coach for the Special Olympics City of Hull, helped with the teaching of mentally and physically impaired children and adults. Finance Officer for Lonsdale College's Junior College Representative (JCR) at Lancaster University, responsible for Lonsdale College's finances and setting the annual budget that was presented before the student union.

References

Dr. Paul Ezhilchelvan

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Dr. Paul Watson

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School of Computing, Newcastle University
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