

Sebastián Ferrada

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Education and Academic Degrees

- 2021 **Ph.D. in Computer Science**, *Universidad de Chile*, Santiago, Chile.
Thesis: Similarity-based Web Queries.
Supervisors: Aidan Hogan and Benjamin Bustos.
- 2017 **M.Sc. in Computer Science**, *Universidad de Chile*, Santiago, Chile.
Thesis: IMGPEPEDIA: a Large-scale Knowledge-base to Perform Visuo-semantic Queries over Wikimedia Commons Images.
- 2017 **Civil Engineer in Computing**, *Universidad de Chile*, Santiago, Chile.

Academic Positions Held

- Current **Postdoctoral Research Fellow**, *Department of Computer and Information Science (IDA)*, *Linköping University*, Linköping, Sweden.
Conducting research on the interoperability of graph databases. Mentored by Olaf Hartig.
- 2017-2021 **Lecturer**, *Universidad de Chile*, Santiago, Chile.
Data Science Diploma and Undergraduate Program Lecturer in the following courses: Database Systems, Information Retrieval and Introduction to Programming at the Department of Computer Science.
- 2013-2018 **Teaching Assistant**, *Universidad de Chile*, Santiago, Chile.
Various Courses: Databases; Algorithm Analysis; Programming Methodologies; Multimedia Retrieval.

Professional Experience

- 2020-2021 **REDPIE**, *Santiago*,
Software Engineer.
Full-stack engineer for `utopie.c1`: Vue, Bootstrap, Django REST Framework, Elastic Search.
- 2020 **Freelance Developer**, *Santiago*.
Full-stack developer: Angular, Material Design, Bootstrap, Django, Flask, Spring-boot
- 2014 **NIC Chile Research Labs**, *Santiago*,
Part-Time Developer.
Android App Developer for BeCity.
- 2013 **Rubén Boroschek & Associates**, *Santiago*,
Professional Internship II.
Real-time data mining of status logs for accelerometers.
- 2013 **Rubén Boroschek & Associates**, *Santiago*,
Professional Internship I.
Implementation of mathematic scripts to analyse seismic data.

2012 **Imagicair S.A.**, *Santiago*,
Part-Time Developer.
J2EE Developer.

Honours and Awards

- 2018 **Best Graduate**, Distinction awarded by the Chilean Association of Engineers to top recently graduated engineers from Chilean universities.
- 2018 **First Prize**, at the 25th Latin American Contest of Master Thesis, organized by the Latin American Center for Computing Studies.
- 2017 **Best Student Paper**, Resources track, for *IMGpedia: a Linked dataset with Content-based analysis of Wikimedia Images*, at the International Semantic Web Conference.
- 2017 **Best Poster**, for *Answering Visuo-semantic Queries with IMGpedia*, at the International Semantic Web Conference.
- 2017 **CONICYT**, Obtained the national doctorate scholarship from CONICYT (Chilean government) for Ph.D. funding.
- 2015 **Outstanding Student**, Awarded by the Faculty of Physical and Mathematical Sciences, Universidad de Chile, for having an excellent academic performance as an undergraduate student.

Publications

Shahrzad Khayatbashi, Sebastián Ferrada, and Olaf Hartig. Converting Property Graphs to RDF: A preliminary study of the practical impact of different mappings. In *Joint Workshop on Graph Data Management Experiences & Systems (GRADES) and Network Data Analytics (NDA) (GRADES-NDA'22)*, 2022.

Sebastián Ferrada, Benjamin Bustos, and Aidan Hogan. Extending SPARQL with similarity joins. In *The Semantic Web – ISWC 2020*. Springer International Publishing, 2020.

Sebastián Ferrada, Benjamin Bustos, and Nora Reyes. An efficient algorithm for approximated self-similarity joins in metric spaces. *Information Systems*, page 101510, 2020.

Sebastián Ferrada, Benjamin Bustos, and Aidan Hogan. IMGpedia: A linked dataset with content-based analysis of wikimedia images. In *The Semantic Web – ISWC 2017*, pages 84–93. Springer International Publishing, 2017.

Sebastián Ferrada, Benjamin Bustos, and Nora Reyes. A simple, efficient, parallelizable algorithm for approximated nearest neighbors. In *Proc. 12 Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)*, 2018.

Sebastián Ferrada, Nicolás Bravo, Benjamin Bustos, and Aidan Hogan. Querying wikimedia images using wikidata facts. In *Companion Proceedings of the The Web Conference 2018*, 2018.

Sebastián Ferrada, Benjamin Bustos, and Aidan Hogan. Answering visuo-semantic queries with IMGpedia. In *Demo proc. of the 16th International Semantic Web Conference*, 2017.

Sebastián Ferrada, Benjamin Bustos, and Aidan Hogan. IMGpedia: Enriching the Web of Data with Image Content Analysis. In *Proc. 10 Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)*, 2016.

PC Membership

- 2021, 2022 **International Semantic Web Conference**, *Programme Committee Member, Research Track*.
- 2021, 2022 **Extended Semantic Web Conference**, *Poster and Demo Programme Committee Member*.
- 2021 **The Web Conference**, *Programme Committee Member, Semantics and Knowledge Track*.
- 2021 **Wikidata Workshop**, *Programme Committee Member*, co-located with ISWC 2021.
- 2020 **European Conference in Artificial Intelligence**, *Programme Committee Member*.

Teaching and Supervision

Courses

- **Big Data Analytics**, *Linköping University*, VT2 2022.
Course size and level: 32 undergraduate students
Role: Lab Assistant
- **Database Technology**, *Linköping University*, HT2 2021.
Course size and level: 30 graduate students
Role: Lab Assistant
- **Advanced Data Models and Databases**, *Linköping University*, HT1 2021.
Course size and level: 22 graduate students
Role: Lecturer
- **Information Retrieval**, *Universidad de Chile*, Autumn 2021.
Course size and level: 16 professionals
Role: Lecturer
- **Information Retrieval**, *Universidad de Chile*, Autumn 2020.
Course size and level: 31 professionals
Role: Lecturer
- **Databases**, *Universidad de Chile*, Spring 2019.
Course size and level: 66 undergraduate students
Role: Lecturer
- **Databases**, *Universidad de Chile*, Spring 2018.
Course size and level: 75 undergraduate students
Role: Teaching assistant

- **Relational Databases**, *Universidad de Chile*, Autumn 2018.
Course size and level: 14 professionals
Role: Lecturer
- **Databases**, *Universidad de Chile*, Autumn 2018.
Course size and level: 63 undergraduate students
Role: Teaching assistant
- **Relational Databases**, *Universidad de Chile*, Spring 2017.
Course size and level: 18 professionals
Role: Lecturer
- **Databases**, *Universidad de Chile*, Spring 2017.
Course size and level: 71 undergraduate students
Role: Teaching assistant
- **Databases**, *Universidad de Chile*, Autumn 2017.
Course size and level: 59 undergraduate students
Role: Teaching assistant
- **Design and Programming Methodologies**, *Universidad de Chile*, Autumn 2017.
Course size and level: 56 undergraduate students
Role: Teaching assistant
- **Algorithm Design and Analysis**, *Universidad de Chile*, Spring 2016.
Course size and level: 68 undergraduate and graduate students
Role: Teaching assistant
- **Databases**, *Universidad de Chile*, Spring 2016.
Course size and level: 55 undergraduate students
Role: Teaching assistant
- **Algorithms and Data Structures**, *Universidad de Chile*, Autumn 2016.
Course size and level: 51 undergraduate students
Role: Teaching assistant
- **Content-based Image and Video Search**, *Universidad de Chile*, Autumn 2016.
Course size and level: 16 undergraduate and masters students
Role: Teaching assistant
- **Databases**, *Universidad de Chile*, Autumn 2016.
Course size and level: 51 undergraduate students
Role: Teaching assistant
- **Introduction to Programming**, *Universidad de Chile*, Spring 2015.
Course size and level: 104 undergraduate students
Role: Teaching assistant
- **Algorithm Design and Analysis**, *Universidad de Chile*, Spring 2015.
Course size and level: 40 undergraduate students
Role: Teaching assistant
- **Design and Programming Methodologies**, *Universidad de Chile*, Spring 2015.
Course size and level: 54 undergraduate students
Role: Teaching assistant

- **Discrete Mathematics**, *Universidad de Chile*, Autumn 2015.
Course size and level: 56 undergraduate students
Role: Teaching assistant
- **Design and Programming Methodologies**, *Universidad de Chile*, Autumn 2015.
Course size and level: 36 undergraduate students
Role: Teaching assistant
- **Algorithms and Data Structures**, *Universidad de Chile*, Spring 2014.
Course size and level: 68 undergraduate students
Role: Teaching assistant
- **Design and Programming Methodologies**, *Universidad de Chile*, Spring 2014.
Course size and level: 40 undergraduate students
Role: Teaching assistant
- **Algorithm Design and Analysis**, *Universidad de Chile*, Spring 2014.
Course size and level: 32 undergraduate students
Role: Teaching assistant
- **Design and Programming Methodologies**, *Universidad de Chile*, Autumn 2014.
Course size and level: 33 undergraduate students
Role: Teaching assistant
- **Databases**, *Universidad de Chile*, Autumn 2014.
Course size and level: 31 undergraduate students
Role: Teaching assistant

Supervision and Examination

- **Juliette Winneroth**, *"Using Vocabulary Mappings for Federated RDF Query Processing"*.
Masters Thesis, Linköping University. Ongoing. Role: Supervisor
- **Wiktor Karlsson**, *"Integrating GraphQL APIs into an RDF Federation"*.
Masters Thesis, Linköping University. Ongoing. Role: Supervisor
- **Milton Chowdary**, *"Automated visualization of product deployment in a cloud environment"*.
Bachelors Thesis, Linköping University. Ongoing. Role: Examiner, de-facto Supervisor