

Laure Runser

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EDUCATION

Master's Degree in Computer Science - Université de Paris

Paris, France

Algorithms, formal verification, compilation. First year's final grade: 17.6/20 (UK First) Sept. 2022 – June 2024

Université de Paris

Paris, France

Bachelor's Degree in Computer Science. Final grade: 16.5/20 (UK First) Sept. 2019 – June 2022

EXPERIENCE

Software Engineer Intern ([git repo](#))

Jun – Aug 2023

Supervised by Raphael Proust and Diane Gallois-Wong

Nomadic Labs, Paris

- Implemented an incremental JSON parser for the Tezos blockchain RPCs
- Wrote and analysed benchmarks to improve performance
- Used advanced OCaml programming techniques such as GADTs, polymorphic hashmaps, type equality witnesses, binding operators for monads, algebraic effects
- Improved the speed, safety and correctness of the data deserialisation step

Research Assistant ([git repo](#))

Jan – June 2023

Supervised by Pierre-Evariste Dagand

IRIF lab, Université de Paris, France

- Implemented compilation optimizations for the language Core (part of the Glasgow Haskell Compiler)
- Implemented beta-reduction, let-inlining, let-floating and join point optimization using OCaml

Teaching Assistant

Sept 2022 – Present

Computer Science Department

Université de Paris

- Tutored 50+ bachelor students (1st and 2nd year students) in the following classes: Introduction to programming (Java and OCaml), Introduction to formal logic, Algorithmics

PROJECTS

Mageri - a Gemini browser ([git repo](#)) | OCaml

Work in progress

- Developed a CLI browser for the Gemini protocol that supports normal browsing and keeping track of history
- Offline mode to load articles when a connection is available

BoronGo - a map pathfinding app ([git repo](#)) | Java, Typescript, Docker, Gradle

2023

- Group project for a project management class, using Agile methodologies and TDD
- Offline maps app, to find itineraries by foot or public transport
- Finds quickest paths (by time), shortest paths (by distance) and paths with the least amount of walking
- Can specify start times, and takes into accounts the public transport schedule to compute total transit times

NLP Goodreads Search Engine ([git repo](#)) | Python, Django, nltk, numpy, sci-kit

2021

- Developed a search engine for the Goodreads database
- Used TF-IDF to find relevant answers to the user's queries
- Used NLP techniques to surface similar books

Visulog - a Git visualization tool ([git repo](#)) | Java, Javascript

2020

- Developed a git visualization tool to help teachers grade group projects
- Generates charts to show the number of commits/merge commits/lines changed per author
- Easy to use and modular CLI interface

DPLL solver ([git repo](#)) | OCaml

2022

- Implemented a small DPLL solver for a logic class
- Performance comparisons between several naive algorithm and DPLL

Personal website ([link](#)) | Hugo, Github Actions

2023

- Developed a personal website using Hugo and deployed with Github Actions

VOLUNTEERING AND LEADERSHIP

Student representative in the Education Commission

July 2023 – July 2025

Governing body of the Faculty of Science

Université de Paris

- Representing 7000+ students with regards to the courses contents and organisation, as well as grading
- Part of disciplinary hearings on matters of plagiarism and cheating

Leader of the Student Representatives in the CUFR

Sept 2020 – Sept 2025

CUFR (governing body of the Computer Science department)

Université de Paris

- Represented 1000+ students in meetings about the classes, the finances and more generally the daily management of the department

President of the Student Association IP7

Sept 2020 – Sept 2023

BDE IP7

Paris, France

- Managed a godfather/mother program (100+ pairs) to help first year students adapt to university
- Built and moderated a Discord server for all CS students (2500+ members) and faculty staff
- Sysadmin of the organization's server, website and members' management software, organized Linux install parties
- Led a university-wide information campaign about forgotten female researchers in computer science

TECHNICAL SKILLS

Languages: OCaml, Java, SQL (Postgres) and Typescript

Developer Tools: Git, IntelliJ, VS Code, dune, opam

Natural languages: French (native), English (fluent), German (B1)

Driving licence