



Erkin Tunc Boya

Data Engineering / Data Systems Internship

Java – Python – SQL – Django – Indexing – External Sorting – Relational Modelling

Based in Clermont-Ferrand, France • Hybrid / Remote • +33 7 49 74 39 99

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PROFILE

Computer Science graduate from Université Clermont Auvergne, enrolled in the Master's programme in Computer Science beginning in September 2026. I am seeking an internship in data engineering or data systems. My projects focus on indexing, external sorting, relational data modelling, and CSV processing using Java, Python, SQL, and Django.

SELECTED PROJECTS

Nov. 2025 – Dec. 2025 **B-Tree Index Engine – Java, Data Indexing**

- Implemented a balanced B-Tree with insertion, node splitting, and preservation of the tree's structural invariants.
- Designed an indexing engine for fast data retrieval, based on mechanisms commonly used in database systems.
- Managed keys, nodes, and traversal operations to preserve structural consistency after each insertion.
- Implemented exact-match, range, and prefix searches on a real-world dataset of approximately 35,000 entries, with performance testing.

Nov. 2025 – Dec. 2025 **External Sort – Java, Large-Scale Data Processing**

- Developed a disk-based sorting engine for datasets exceeding the available memory.
- Generated sorted runs and implemented multi-way merging with explicit management of disk access and available memory.
- Implemented multi-column CSV sorting comparable to a SQL ORDER BY operation.

Jan. 2025 – May 2025 **Collaborative Task Backend – Django, SQLite**

- Developed a multi-user backend supporting public and private tasks, teams, subtasks, and user profiles.
- Designed a relational Task–User–Team model, with subtasks implemented through a directed self-referential relationship.
- Implemented access-control rules based on creator, collaborator, team member, and superuser roles.

EDUCATION

From Sep. 2026

Master's Programme in Computer Science, Université Clermont Auvergne / ISIMA
Enrolled in the first year of the Master's programme (M1)

2022 – 2026

Bachelor's Degree in Computer Science, Université Clermont Auvergne
Degree awarded in July 2026

- Data: Advanced Databases, Information Systems, Graph Theory, Probability and Statistics
- Development and systems: Algorithms, Object-Oriented Programming, Compilation, Computer Architecture, Systems and Networks

2018 – 2022

Foreign Secondary Education Diploma equivalent to the French Baccalauréat, Saint-Joseph High School of İzmir – Turkey

TECHNICAL SKILLS

Databases & Data

SQL • SQLite • Relational Data Modelling • Indexing • B-Trees • External Sorting • CSV Processing

Programming

Java • Python • C • JavaScript • Object-Oriented Programming

Backend

Django • Access Control • Domain Modelling • Multi-User Applications

Algorithms & Tools

Data Structures • Graphs • Dynamic Programming • Complexity Analysis • JUnit 5 • Git • Linux • Gradle

LANGUAGES

French B2 – DELF B2
English B2 – TOEIC 875/990

Turkish Native
Spanish Beginner