

# Andrei Lepikhov

Madrid, Spain

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## Experience

### Postgres Professional

Principal PostgreSQL Developer, Lead of the optimisation lab

Moscow, Russian Federation

April 2023 – Present

- Led optimiser development (SwitchJoin, built-in re-optimisation, shuffle join, distributed query optimisation, etc.)
- Contributed to the PostgreSQL core a set of optimisation features and numerous reviews
- Participated in Postgres-related conferences with talks about directions and trends in query optimisation
- Maintained the tech blog about PostgreSQL's new features and challenges

### Senior PostgreSQL Developer

October 2021 – April 2023

- Designed the query plan freezing extension
- Contributed to the PostgreSQL core patches and reviews
- Invented and designed prototype of the 'Shardman' extension - a distributed database system based on PostgreSQL
- Spoke at conferences about the design of new open-source and enterprise features

### PostgreSQL Developer

December 2017 – October 2021

- Participated in the Multimaster extension development. Implemented parallel recovery feature
- Became a maintainer of the adaptive query optimiser (AQO) extension
- Developed and maintained Github Actions workflows for the AQO extension
- Contributed minor features for the core PostgreSQL code - Self-Join Removal, WAL compression, BTree bulk deletion

### Academician V.P.Makeyev State Rocket Centre

Senior Scientist

Miass, Russia

March 2010 – March 2018

- Invented and implemented in code mathematical models of ablation and radiation in high-entropy flows
- Published papers on designing and implementing computational methods in aerodynamics and heat transfer

### South Ural State University (SUSU)

Assistant Professor

Chelyabinsk, Russia

July 2005 – May 2010

- Performed research on replication and load balancing in distributed databases
- Gave lectures in software engineering and database fundamentals

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## Skills

**Languages:** C/C++, SQL, Perl, Python, HTML/CSS, JavaScript,  $\text{\LaTeX}$

**Skills:** Relational Databases, Software Development, PostgreSQL Internals, Performance Tuning, Scalability, Team Management, Agile methodologies

**Software:** Postgres, MySQL, MS SQL Server, Citus, Atlassian (Jira, Confluence), VS Studio, Linux, bash, gdb, perf, git

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## Education

### Lomonosov Moscow State University (MSU)

Ph.D. Computer Science (Distributed Databases)

Moscow, Russia

October 2005 – March 2009

### Chelyabinsk State University (CSU)

Specialist in Computer Engineering

Chelyabinsk, Russia

September 2000 – June 2005