

# Sacheendra Talluri

Amsterdam | EU work eligible | Open to relocation

[sacheendra.t@gmail.com](mailto:sacheendra.t@gmail.com) | [Website](#) | [GitHub](#) | [Google Scholar](#)

Distributed systems engineer with 7+ years in performance analysis, large-scale cluster scheduling, GPU data engines, and fault-tolerant cloud services. Delivered throughput and efficiency gains at **IBM Research**, **Databricks**, and startups. **466 citations (9 h-index)**.

## Experience

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**Ph.D. Candidate, Vrije Universiteit Amsterdam** - Amsterdam, the Netherlands July 2019 – May 2025

- Reduced datacenter job runtimes by up to 24% by evaluating API integration between Spark and Kubernetes schedulers [4, 5].
- Led a long-term project to collect crowdsourced data about cloud and LLM service reliability [2, 3].
- Built the then **world's fastest** GPU-based JSON query engine, achieving a 2.9x speedup over state-of-the-art [1].
- Modeled LLM fine-tuning, GPUs, and job schedulers in OpenDC datacenter simulator. Achieved 5.5-3.6% MAPE error [GitHub].
- Published in top-tier venues (**VLDB, TPDS, ICDCS**) and earned a **Best Artifact Award** for reproducible research tools.
- Mentored 12 BSc/MSc students, resulting in 4 publications, 1 best thesis award, and 1 runner-up.

**Research Visitor, IBM Research** - Haifa, Israel July 2023 – September 2023

- Extended the Go compiler with dynamic dataflow analysis, improving debugging workflows [GitHub].
- Built a Kubernetes error diagnostics system that automatically links configuration issues to root causes, reducing error triage time.

**Software Engineer, IPBurger** - Remote October 2018 – May 2019

- Reduced proxy connection time by 90% and improved uptime by deploying caching and replication strategies.
- Led a 3-person team in implementing the control plane for a fault-tolerant proxy infrastructure serving thousands of connections.

**Database Internals Intern, Databricks** - Amsterdam, the Netherlands February 2018 – May 2018

- Analyzed 600 TB of Apache Spark logs to produce the first published study of large-scale storage access patterns [Paper].
- Simulated and benchmarked caching algorithms, revealing that simpler policies can match complex ones at large cache sizes [Paper].

**Part-time Infrastructure Engineer, ReactiveSearch.io** - Remote January 2014 – April 2016

- Automated Elasticsearch cluster provisioning per customer, scaling to 100k ops/sec without manual intervention.
- Designed a stream processing pipeline leveraging Elasticsearch's query engine for real-time analytics.

## Skills

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**Programming Languages:** Python, Go, Java, Kotlin, JavaScript, Node.js, CUDA, C, C++, Scala

**Platforms:** Linux (Storage and Network APIs), Kubernetes, Apache Spark, AWS, GCP

**Data Management:** Elasticsearch, Redis, PostgreSQL, MongoDB, Apache Kafka, HDFS, Hive, MinIO, Zookeeper, etcd

**Data Analysis:** Numpy, Pandas, PyTorch

**DevOps:** Terraform, Docker, GitHub Actions, Prometheus, InfluxDB

## Education

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**Vrije Universiteit Amsterdam** Ph.D. in Computer Science (Thesis Completed) Amsterdam, The Netherlands  
Thesis: Design and Characteristics of Cloud Computing Systems Along the Performance-Failure Continuum December 2025

**Delft University of Technology** M.Sc. in Computer Science – GPA: 8/10 (top 20%) Delft, The Netherlands  
Thesis: Workload Characterization, Modeling, and the Design of Cache Policies for Big Data Workloads December 2018

**Dhirubhai Ambani University** B.Tech. in ICT – GPA: 8.6/10 (top 15%) Gandhinagar, India

## Other Experience

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**Secretary, SPEC** (of SPEC CPU fame) Cloud research group November 2019 – present

**Lead TA and Lab Coordinator**, Distributed Systems at VU Amsterdam (~100 students) November 2019 – February 2025

**Teaching Assistant**, Storage Systems at VU Amsterdam (unique course [Paper]) September 2020 – November 2022

**Treasurer**, TU Delft Debating Club August 2017 – July 2018

**Teaching Assistant**, Big Data Processing & Distributed Systems at TU Delft November 2017 – March 2018

**Reviewer**, ACM/SPEC ICPE, IEEE/ACM CCGRID, IEEE TPDS

## Selected Publications

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- [1] **Sacheendra Talluri**, Guido Walter Di Donato, Luca Danelutti, Koen R. Vlaswinkel, Marco Arnaboldi, Arnaud Delamare, Marco D. Santambrogio, Daniele Bonetta. “GpJSON: High-performance JSON Data Processing on GPUs.” VLDB 2025.
- [2] **Sacheendra Talluri**, Dante Niewenhuis, Xiaoyu Chu, Jakob Kyselica, Mehmet Cetin, Alexander Balgavy, and Alexandru Iosup. “Cloud Uptime Archive: Open-Access Availability Data of Web, Cloud, and Gaming Services.” Revision TPDS.
- Matthijs Jansen, **Sacheendra Talluri**, Krijn Doekemeijer, Nick Tehrany, Alexandru Iosup, Animesh Trivedi. “Columbo: A Reasoning Framework for Kubernetes' Configuration Space.” ICPE 2025.
- [3] Xiaoyu Chu, **Sacheendra Talluri**, Qingxian Lu, Alexandru Iosup. “An Empirical Characterization of Outages and Incidents in Public Services for Large Language Models.” ICPE 2025.
- [4] Aratz Manterola Lasa, **Sacheendra Talluri**, Tiziano De Matteis, Alexandru Iosup. “The Cost of Simplicity: Understanding Datacenter Scheduler Programming Abstractions.” ICPE 2024.
- [5] **Sacheendra Talluri**, Nikolas Herbst, Cristina L. Abad, Tiziano De Matteis, Alexandru Iosup. “ExDe: Design Space Exploration of Scheduler Architectures and Mechanisms for Serverless Data-processing.” FGCS 2024.

## Awards

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<b>AWS</b> Cloud Research Credit 5k and 10k USD	2020, 2022
Best Artifact Award at ACSOS'21	2021
Graduate travel grant by ACM SIGSOFT and UCC	2019, 2022

## References

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Prof. dr. Alexandru Iosup, Full Professor, Vrije Universiteit Amsterdam  
Dr. Animesh Trivedi, Senior Research Scientist, IBM Research Zurich  
Dr. Daniele Bonetta, Assistant Professor, Vrije Universiteit Amsterdam

a.iosup@vu.nl  
animesh.trivedi@ibm.com  
d.bonetta@vu.nl