Sacheendra Talluri

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Experience

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

- Implemented a benchmarking tool to evaluate the performance of serverless workflows across multiple cloud services.
- Investigated datacenter scheduler APIs to determine how much functionality they expose to the user. Evaluated the performance impact of more communication between the user and the scheduler.
- Evaluated scheduler architectures for data-aware serverless computing. Evaluated decentralized scheduling policies for the same.
- Proposed and implemented a new data collection method based on crowdsourcing to evaluate the uptime of cloud services.

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

- Added dynamic dataflow analysis to the Go compiler. Support for all language constructs except maps.
- Designed and implemented a system to associate Kubernetes errors with the configuration that caused the error.

DevOps Consultant, IPBurger - Remote — October 2018 – May 2019

- Designed and implemented a highly available proxy management software.
- Improved proxy connection time (10x) and stability using strategic caches and replicas.

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

- Analyzed 600TB Databricks Runtime (based on Apache Spark) logs, resulting in a publication.
- Implemented and simulated state-of-the-art (LHD, Hyperbolic, etc.) cache policies for Databricks Runtime. One published result was that simple cache policies perform as well as complex ones at large cache sizes, for the big data processing workload.

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

- Designed and implemented a successful automated deployment system to deploy an elasticsearch cluster per customer. The deployed systems could handle loads of over 100k ops/second.
- Designed and implemented a stream processing system and open source libraries to access ReactiveSearch's streaming API.

Education

Vrije Universiteit Amsterdam — Amsterdam, The Netherlands
Ph.D candidate in Computer Science (Distributed Systems) — Expected September 2025

Delft University of Technology — Delft, The Netherlands
M.Sc. in Computer Science – GPA: 8.0 (10.0 Max) — December 2018

Dhirubhai Ambani Institute of Information and Communication Technology — Gandhinagar, India
B.Tech. in Information and Communication Technology – GPA: 8.6 (10.0 Max) — May 2016

Other Experience

Secretary, SPEC (of SPEC CPU fame) Cloud research group — November 2019 – present
Lead TA and Lab Coordinator, Distributed Systems at VU Amsterdam — November 2019 – February 2025
Teaching Assistant, Storage Systems at VU Amsterdam — 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
Organizing Committee Member, Delft Open 2017 debate competition — December 2016 – June 2017
Teaching Assistant, System Software & Object-oriented Programming at DA-IICT — August 2015 – April 2016
Reviewer, ACM/SPEC ICPE, IEEE/ACM CCGRID, IEEE TPDS
Supervised 6 MSc and 6 BSc theses. Two were published in peer-reviewed conferences, two in workshops, one won the best thesis award, and another was a runner-up.

Awards

AWS 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

Selected Publications

- Ritul Satish, **Sacheendra Talluri**, Sudarsan Sivakumar, Matthijs Jansen, Alexandru Iosup. Performance Characterization of Data Store Event Trigger Mechanisms for Serverless Computing. CCGRID 2025

- Matthijs Jansen, **Sacheendra Talluri**, Krijn Doekemeijer, Nick Tehrany, Alexandru Iosup, Animesh Trivedi. Columbo: A Reasoning Framework for Kubernetes' Configuration Space. ICPE 2025

- Xiaoyu Chu, **Sacheendra Talluri**, Qingxian Lu, Alexandru Iosup. An Empirical Characterization of Outages and Incidents in Public Services for Large Language Models. ICPE 2025

- Aratz Manterola Lasa, **Sacheendra Talluri**, Tiziano De Matteis, Alexandru Iosup. The Cost of Simplicity: Understanding Datacenter Scheduler Programming Abstractions. ICPE 2024

- **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

- **Sacheendra Talluri**, Leon Overweel, Laurens Versluis, Animesh Trivedi, Alexandru Iosup. Empirical Characterization of User Reports about Cloud Failures. ACSOS 2021

- Laurens Versluis, Roland Mathá, **Sacheendra Talluri**, Tim Hegeman, Radu Prodan, Ewa Deelman, Alexandru Iosup. The Workflow Trace Archive: Open-Access Data From Public and Private Computing Infrastructures. IEEE TPDS 2020

Skills

Programming Languages: Fluent in Python, Go, Java, Kotlin, and Node.JS. Familiar with C, C++, Scala, Smalltalk, ARM Assembly
Platforms: GNU/Linux (Storage and Network APIs), Kubernetes, Apache Spark, AWS, GCP
Data Management: HDFS, Elasticsearch, Redis, PostgreSQL, MongoDB, Apache Kafka, MinIO, Zookeeper, etcd
Data Analysis: Numpy ecosystem, Pandas, PyTorch
DevOps: Terraform, Docker, Github Actions