JENS D'HONDT

PhD Candidate – Data & AI Cluster – Eindhoven University of Technology

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A dedicated researcher with expertise in developing scalable algorithms and data-driven solutions. Proven track record of innovating and publishing novel techniques in top-tier venues, specializing in similarity search and large-scale data processing. Experienced in delivering production-ready solutions capable of handling terabytes of data. Strong collaborator with excellent communication skills demonstrated through conference presentations and teaching.

EDUCATION

PhD. in Computer Science

Eindhoven University of Technology (TU/e)

Nov. 2021 – Dec. 2025 (Exp.) | Eindhoven, the Netherlands

Msc. in Data Science and Artificial Intelligence

Eindhoven University of Technology (TU/e)

Sep. 2019 – Okt. 2021 | Eindhoven, the Netherlands

GPA: 9.1/10 **(Cum Laude)**, Thesis: 9.5/10

Bsc. in Industrial Engineering

Eindhoven University of Technology (TU/e)

Sep. 2016 – Sep. 2019 | Eindhoven, the Netherlands

GPA: 8.5/10 **(Cum Laude)**, Thesis: 9.5/10

WORK EXPERIENCE

PhD Candidate - Full Time

Eindhoven University of Technology (TU/e)

Nov. 21' – present (4 yr) | Eindhoven (NL)

- Developing novel algorithms for large-scale similarity search, focusing on scalability and performance optimization.
- Leading research in time series analysis, resulting in multiple top-tier publications (VLDB, SIGMOD).
- Technical lead in EU-funded project, designing ML pipelines for processing TB-scale remote sensing data.

Data Engineering Intern - Full Time

BMW Group

Jul. 20' – Dec. 20' (0.5 yr) | Munich (GER)

- Lead migration of a legacy Data Warehouse from On-premise to **AWS** using **Spark** and **Bash scripting**.
- Designed data infrastructure to process ~150 TB/day, improving part anomaly-detection. Used **AWS Glue**, **Lambda** and **DynamoDB**.
- Re-engineering the data-storage and retrieval strategy of dashboards to improve scalability to handle ~1 TB of data.

Software Engineer - Freelance

Jens d'Hondt Data Solutions

Dec. 19' – Nov. 21' (2 yr) | Eindhoven (NL)

- Creation and implementation of data-driven applications, performing statistical analyses for clients leveraging **Angular**, **Python**, **Spark**, **Kafka**.

PROJECTS

Distributed LLM Training Framework

Experimented with distributed LLM training on university's HPC cluster using 8 A100 GPUs. Implemented mixed-precision training and gradient checkpointing for memory efficiency. Successfully fine-tuned a 7B parameter model for domain-specific tasks. Tools used: **PyTorch**, **DeepSpeed**, **SLURM**, **Weights & Biases**.

ML-based Field Delineation

Developed a machine learning-based field delineation system for remote sensing data, which automatically detects and delineates agricultural fields from satellite imagery. Published in 2023 [7].

Motivational Messaging Bot

Designed and integrated end-to-end (IOS & Android) continuous-learning pipeline which automatically creates personalized messages and learned from retention-rates (link). Published in 2019 [8].

Driving Behavior Grading System

Built streaming service for real-time grading of people's driving behavior based on both structured and unstructured data (car acceleration/speed, surrounding traffic and weather information) using **Apache Kafka**, and **Python**.

SKILLS

Python, Java, SQL
AWS, Docker, ML Ops
R, Git, Angular

LANGUAGES

English, Dutch
French, German

PUBLICATIONS

- [1] d'Hondt, J.E., Papapetrou, O., & Palpanas, T. (2026) MS-Index: Fast Subsequence Search for Multivariate Time Series under Euclidean Distance. **VLDB 2026** (In revision).
- [2] d'Hondt, J.E., Paparrizos, J., & Papapetrou, O. (2025) A Structured Study of Multivariate Time-Series Distance Measures. **SIGMOD, 2025**.
- [3] Pelok, B & d'Hondt, J.E. (2025). MULISSE: Variable-Length Similarity Search for Multivariate Time Series. **ICDEW, 2025**.
- [4] Paparrizos, J., et al. (2024). A Survey on Time-Series Distance Measures. arXiv:2412.20574.
- [5] Papapetrou, O. & d'Hondt, J.E. (2024) Multivariate Similarity Search - A Call for a New Breed of Similarity Search Algorithms. **ICDE, 2024**.
- [6] d'Hondt, J.E. & Papapetrou, O. (2024). Beyond the Dimensions: A Structured Evaluation of Multivariate Time Series Distance Measures. **ICDEW, 2024**.
- [7] Jörges, C., d'Hondt, J. E., & Chatzigeorgakidis, G. (2023) Leaf area index time series imputation for early yield prediction. **BIDS 2023**.
- [8] d'Hondt, J.E., Minartz, K., & Papapetrou, O. (2023). Efficient detection of multivariate correlations with different correlation measures. **VLDB Journal, 2023**.
- [9] Minartz, K., d'Hondt, J.E., & Papapetrou, O. (2022). Multivariate correlation discovery in static and streaming data. **VLDB, 2022**.
- [10] d'Hondt, J.E., Nuijten, R., & Van Gorp, P. (2019). Evaluation of computer-tailored motivational messaging in a health promotion context. **Lecture Notes in Artificial Intelligence 2019**.

EXTRA-CURRICULAR

- **Founder** - Dpasse Student Recruitment, Eindhoven, 2018-2020.
- **Summer School** - Harbin Institute of Technology, Shenzhen, 2019.
- **Participant** - Boston Consultancy Group 7-day Business course (Berlin, 2018).
- **Student Consultant** - Rabobank, as part of Netherlands-Asia Honours Summer School, 2019.
- **Acquisition leader** - University Racing Eindhoven (Formula-Student Team Eindhoven)

ORGANIZATIONAL

- **Publication chair** to the workshop on Multivariate Time Series Analysis (MulTISA) at ICDE 2024 and 2025.
- **Co-lecturer** for the course 'Big Data Management'.
- **Supervisor** to 8 master students.
- **Reviewer** for MulTISA 2024, 2025, and the Data Mining and Knowledge Discovery journal.

REFEREES

Dr. Odysseas Papapetrou
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