

Christian Lülfi

MSc.

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As a PhD candidate at the University of Münster, I am on track to complete my degree by Summer 2024. My passion for deep learning and large-scale computing drives my research, which is focused on their applications in search engines. I am eager to embrace new challenges and seek opportunities to expand my expertise in these fields.

EDUCATION

PhD in Information Systems , <i>University of Münster</i>	11/2020 — Present
<ul style="list-style-type: none">• Research Group: Machine Learning and Data Engineering lab (Advisor: Prof. Fabian Gieseke)• Thesis: <i>Advancing Large-Scale Data Retrieval: A Co-Design Approach of Machine Learning and Indexing</i>	
Master of Science in Information Systems , <i>University of Münster</i>	04/2018 — 08/2020
<ul style="list-style-type: none">• Thesis: <i>Categorization of Graph Neural Networks in the Area of Organic Chemistry</i>• Grade: 1.8 (best: 1.0, worst: 5.0)	
Exchange Semester: Master of Science in Computer Science , <i>University of Sydney</i>	08/2019 — 12/2019
<ul style="list-style-type: none">• Courses: Machine Learning, Data Mining, Predictive Analytics, Cyber Security	
Bachelor of Science in Information Systems , <i>University of Applied Sciences Weserbergland</i>	08/2014 — 07/2017
<ul style="list-style-type: none">• Thesis: <i>Evaluation of a Continuous Deployment Procedure with Kubernetes in the Data Center of Atruvia AG</i>• Grade: 1.3 (best: 1.0, worst: 5.0)	
Higher Education Entrance Qualification , <i>Wilhelm-Hittorf-Gymnasium Münster</i>	08/2006 — 07/2014

WORK EXPERIENCE

Research Assistant <i>University of Münster</i>	11/2020 — Present <i>Münster, Germany</i>
<ul style="list-style-type: none">• Conducted extensive research resulting into multiple publications.• Delivered lectures and supervised bachelor/master theses.	
Linux System Engineer <i>Atruvia AG</i>	08/2017 — 10/2020 <i>Münster, Germany</i>
<ul style="list-style-type: none">• Managed systems in a data center serving over 1,000 banks in the D-A-CH region.• Led projects to establish a container platform for banking applications.	
Integrated University Program <i>Atruvia AG</i>	08/2014 — 07/2017 <i>Münster, Germany</i>
<ul style="list-style-type: none">• Completed a combined university degree and vocational training at Atruvia AG.• Graduated with highest distinction in both academic and vocational components.	

SELECTED PUBLICATIONS

Lülfi, C., Martins, D., Vaz Salles, M., Zhou, Y., Gieseke, F. <i>CLIP-Branched: Interactive Fine-Tuning for Text-Image Retrieval</i> . In Proceedings of the International ACM SIGIR Conference.	07/2024
Lülfi, C., Martins, D., Vaz Salles, M., Zhou, Y., Gieseke, F. <i>Fast Search-By-Classification for Large-Scale Databases Using Index-Aware Decision Trees and Random Forests</i> . In Proceedings of the VLDB Endowment.	08/2023
Lülfi, C., Martins, D., Vaz Salles, M., Zhou, Y., Gieseke, F. <i>RapidEarth: A Search Engine for Large-Scale Geospatial Imagery</i> . In Proceedings of the ACM SIGSPATIAL.	08/2023
Martins, D., Lülfi, C., Gieseke, F. <i>End-to-end Neural Network Training for Hyperbox-Based Classification</i> . In European Symposium on Artificial Neural Networks, ESANN.	06/2023

SKILLS

Programming	Python, Bash, Java, JavaScript, R, SQL, C, C++
Tools & Software	Linux, Docker, Kubernetes, Numpy/Pandas, PyTorch, Tensorflow, Git, L ^A T _E X, GDAL
Communication	German (native), English (fluent, TOEFL iBT 106 points)

CERTIFICATIONS & AWARDS

Best Demo Award at ACM SIGSPATIAL 2023	11/2023
Scholarship "PROMOS" of the German Academic Exchange Service	07/2019
Top 10% of the of the graduating class at University of Applied Sciences Weserbergland	07/2017
Scholarship "Deutschlandstipendium" (Maximum funding rate: 1.45 % of all students)	09/2016
Certified Computer Science Expert by the Chamber of Industry and Commerce (with honors)	06/2016

TALKS

ACM SIGSPATIAL'23 International Conference on Advances in Geographic Information Systems, Hamburg	11/2023
ERCIS Lunchtime Seminar , Münster	10/2023
VLDB'23 International Conference on Very Large Data Bases, Vancouver	08/2023
TDWI Roundtable , Münster	05/2023
MLSS^N Summer School , Kraków	06/2022

TEACHING EXPERIENCE & UNIVERSITY SERVICES

Teaching Assistant

- Facilitated tutorials and lectures, along with grading assignments, for courses within our research group.
- Courses: Data Analytics, Management Information Systems & Data Warehousing, Data Integration

Administrator of Cloud Infrastructure

- Led the deployment and management of an advanced cloud infrastructure with GPU support, enhancing student and research capabilities.
- Technologies: Kubernetes, Docker, CephFS, PyTorch.

Thesis Supervisor

- Successfully guided over ten bachelor's and master's theses, contributing to significant academic advancements in our research group.
- Topic Overview: Approximate nearest neighbor search, multi-task transformer learning in NLP, deep learning for tree canopy segmentation