

# David B. Hoffmann

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## WORK EXPERIENCE

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### Visual Geometry Group, University of Oxford

Sep. 2025 – Jan. 2026

*Research Assistant*

*Oxford, United Kingdom*

- Created a large-scale dataset for **3D-reconstruction and tracking** methods on complex human interactions in multi-view sports footage (manuscript **under review at NeurIPS 2026**, with Lorenza Prospero et al.).

### Data Mining and AI Group, Ludwig Maximilian University

Apr. 2025 – Sep. 2025

*Research Assistant*

*Munich, Germany*

- Researched failure points of deep and classical clustering methods with a novel diagnostic toolkit for hardness-aware clustering evaluation (manuscript **under review at ICML 2026**, with Walid Durani et al.).

### Amazon Web Services

Oct. 2021 – Sep. 2024

*Applied Scientist (Working Student) | Feb. 2023 – Sep. 2024*

*Berlin/Tuebingen, Germany*

- Led **top 1 research priority** at SageMaker Autopilot, resulting in 3.5% lower error and 16% lower service latency.
- Built a novel **LLM inference optimization** technique with 13.4% higher accuracy compared to two baselines.
- Published **code on the Amazon Science GitHub** along with **three ArXiv Papers**.

*Data Scientist (Working Student) | Oct. 2021 – Jan. 2023*

*Munich, Germany*

- Developed **predictive sales** and **demand forecast** tooling for Account Management and AWS ProServe.

## EDUCATION

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### University of Oxford

Feb. 2026 – Present

*Visiting for Master's Thesis, Planning in Robotics*

*Oxford, United Kingdom*

- Researching **zero-shot interaction of diffusion** video-language-action and world models for **robotics planning** under joint supervision from João F. Henriques, Björn Ommer and Christian Schroeder de Witt.

### Ludwig Maximilian University

Oct. 2024 – Expected: Aug. 2026

*Master of Science, Elite Study Program Data Science*

*Munich, Germany*

- Current grade 1.0** (best possible grade). Highly selective degree program funded by the Elite Network of Bavaria.
- Selected coursework: Advanced Statistical Modelling and Programming, Supervised Learning, Human Computation and Analytics, Statistical Reasoning and Inference, Connecting Language to Vision.

### Cooperative State University, Baden-Wuerttemberg

Oct. 2021 – Sep. 2024

*Bachelor of Science, Business Information Systems - Data Science*

*Mannheim, Germany*

- Final grade 1.2** (best grade 1.0 – passing grade 4.0).
- Bachelor Thesis on **inference optimization** with **graph-based pruning** of large language models at the AWS AI Lab in Tuebingen (supervised by Sarah Detzler, Mattheus Kleindessner and Kailash Budhathoki).
- Term abroad at **University College Cork (with First Class Honours)**.

## PUBLICATIONS & PROJECTS

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- Jan H. Bertrand, [David B. Hoffmann](#), Jacopo P. Gargano, Laurent Mombaerts, Jonathan Taws, **Autoencoder-Based General-Purpose Representation Learning for Entity Embedding**, [ArXiv](#) Preprint, 2025.
- [David Hoffmann](#), Kailash Budhathoki, Mattheus Kleindessner, **LLM-Rank: A Graph Theoretical Approach to Pruning Large Language Models**, [ArXiv](#) Preprint, [Code](#), 2024.
- [David Hoffmann](#), **Impact of HPO on AutoML Forecasting Ensembles**, [ArXiv](#) Preprint, 2023.

## CERTIFICATIONS, SKILLS & INTERESTS

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- Certifications:** AWS Certified Machine Learning (Specialty) & AWS Certified Solutions Architect (Associate)
- Technical Skills:** Python, PyTorch, HuggingFace, Scikit-Learn, NumPy, Git, AWS Cloud, Docker, Wandb
- Domains:** Computer Vision, Robotics, Inference Optimization, AutoML, Forecasting
- Interests:** Red Cross Volunteer, Hiking, Podcasts, Weightlifting, Painting, Home improvement
- Languages:** English (C2, TOEFL 117/120), French (A2), German (Native)