David M. Knigge

PERSONAL INFO	**Name:**	David M. Knigge
	D.O.B:	21-04-1996
	Address:	Ten Katestraat 37-4
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EDUCATION

University of Amsterdam *2021 - present*
PhD, Artificial Intelligence

- Supervisor: dr. Efstratios Gavves.
- Topic: *Geometric methods for improving radiotherapy dose estimation.*

University of Amsterdam *2019 - 2021*
Master of Science, Artificial Intelligence GPA: 8.92/10

- Relevant Coursework: *Machine Learning 1 & 2, Deep Learning, Computer Vision 1 & 2, Natural Language Processing 1 & 2, Reinforcement Learning, Neural and Cognitive Modelling.*
- Thesis: *Continuous Kernel Group Convolutions for Equivariance to Lie Groups.* Supervisor: dr. Erik J. Bekkers, AMLab
- Graduated Cum Laude.

University of Amsterdam *2016 - 2019*
Bachelor of Science, Artificial Intelligence GPA: 8.98/10

- Relevant Coursework: *Linear Algebra, Probability theory and calculus, Machine Learning*
- Thesis: *Event Correlation and Root Cause Analysis to Support Incident Management in ITSM Environments.* Supervisor: dr. Sander van Splunter, Informatics Institute at UvA
- Graduated Cum Laude.

University of Amsterdam *2017 - 2019*
Honours Programme for BSc. Artificial Intelligence GPA: 8.2/10

- Research project on *Art-Inspired Fashion.* Investigated Siamese nets for image retrieval, and the use of Generative Adversarial nets for generation of images of fashion models wearing novel clothing designs.
- Research project on *Automated ESG Benchmarking.* Explored the use of natural language processing techniques to automate sustainability assessment of large multinationals from large text-based datasets.
- Graduation project on use of document embedding and classification to improve the prediction of SLA breaches in ITSM environments.

PUBLICATIONS Papa, S., Knigge, D. M., Valperga, R., Moriakov, N., Kofinas, M., Sonke, J. J., & Gavves, E. (2023, July). *"Neural Modulation Fields for Conditional Cone Beam Neural Tomography."* In 1st Workshop on the Synergy of Scientific and Machine Learning Modeling at ICML2023. PDF.

Knigge, D. M., Romero, D. W., Gu, A., Gavves, E., Bekkers, E. J., Tomczak, J. M., & Sonke, J. J. (2023, May). *"Modelling Long Range Dependencies in N D: From Task-Specific to a General Purpose CNN."* In The Eleventh International Conference on Learning Representations. PDF.

Knigge, D. M., Romero, D. W., & Bekkers, E. J. (2022, June). *"Exploiting redundancy: Separable group convolutional networks on lie groups."* In International Conference on Machine Learning (pp. 11359-11386). PMLR. PDF.

Romero, D. W., Knigge, D. M., Gu, A., Bekkers, E. J., Gavves, E., Tomczak, J. M., & Hoogendoorn, M. (2022, June). *"Towards a General Purpose CNN for Long Range Dependencies in N-D."* Presented at the first workshop on Continuous Time Methods for Machine Learning at ICML 2022. PDF.

Bartels, M. G. G., Najdenkoska, I., van de Leur, R., Sammani, A., Taha, K., Knigge, D. M., ... & van Es, R. (2021, December). *"Learning to Automatically Generate Accurate ECG Captions."* In Medical Imaging with Deep Learning. PDF.

ACADEMIC EXPERIENCE	**University of Amsterdam**	*Sep 2017 – Jun 2021*
	Teacher Assistant	Amsterdam

- Assisted in teaching of courses for the undergraduate and graduate Artificial Intelligence programmes at University of Amsterdam. Tasks include: creating assignments, teaching lab sessions, assisting students in coursework, grading coursework and exams, and guiding research projects.
- Courses: Calculus & Statistics, Linear Algebra, Machine Learning, Deep Learning, Cognitive Modelling, Logic Programming & Search Methods, Computer Systems, Introduction to Computer Vision, Datastructures & Algorithms, Introduction to Logic, various project-based courses.

University of Amsterdam
Reviewer

- Outstanding reviewer ICML 2022, Outstanding reviewer NeurIPS 2022.

WORK EXPERIENCE	**Syncable Music**	*Oct 2017 – Apr 2021*
	Product Owner	Utrecht, UT

- Design and development of innovative music licensing platform for online content creators.

JUNO Amsterdam — *Feb 2017 – Feb 2021*
Co-founder / Developer — Amsterdam, NH

- Consultancy, design and development of websites and web applications for small and medium businesses.

SNS Bank N.V. — *Apr 2016 – Sep 2016*
Administrative Assistant — Utrecht, UT

- Verifying payment arrangments, processing financial transactions and payment settlements.

Subtilo St. — *Sep 2015 – Sep 2016*
Designer — Amersfoort, UT

- Designing, production and marketing of not-for-profit clothing line in support of the muskathlon foundation's efforts against human trafficking in Greece and

Bulgaria.

ABN Amro Bank N.V. *Oct 2014 – Sep 2015*
Administrative Assistant Amersfoort, UT

- Processing and verifying mortgage requests, point of contact for mortgage intermediaries.

**INTERNSHIPS
& MISC**

KPMG Ideation Challenge 2019. World-finalist in the KPMG Ideation Challenge with project on use of natural language processing techniques to detect fraudulent clauses in rental contracts.

Huawei Seeds for the Future 2019. Summer internship at Huawei China in Shenzhen and Beijing. Explored Chinese culture and tradition, followed 4G and 5G networking courses, partook in project on sustainability in networking.

The Next Web's T500 (2018 & 2019). Awarded a spot on TNW's T500 in 2018 and 2019, a shortlist of promising tech-talent under 25.