Nina Weng

Curriculum Vitae

(+45) 91938675
ninaweng1998@gmail.com
nina-weng.github.io
nina-weng
nina-weng

"It is our choices that show what we truly are, far more than our abilities."

I am a machine learning researcher focused on building reliable, interpretable, and fair AI systems for real-world impact.

I am currently a PhD researcher at the Technical University of Denmark (expected completion: 28 Feb 2026). My research centers on the reliability, interpretability, and fairness of ML systems in medical imaging. I have extensive experience with diffusion-based generative models, vision models (including VLMs), and bias detection methods.

I value open-source collaboration and thrive in diverse, interdisciplinary teams working on meaningful problems.

Expertise and Strength

Machine Learning	GenAI (Diffusion-based), Deep learning, computer vision, VLMs, supervised/unsupervised learning, multimodality
Responsible AI	Interpretability (XAI, counterfactuals), algorithmic Fairness, systematic failure analysis, shortcut learning, uncertainty
Research & Development	Experimental design, statistical analysis, reproducible workflows, translating research to practical applications
Programming	Python (PyTorch), efficient GPU computing, Git/GitHub, HuggingFace, VSCode, Linux
Communication	Technical writing, cross-disciplinary collaboration, deliver complex concepts to diverse audiences

Education

2023.3–2026.2 **PhD, Computer Science**, *Technical University of Denmark*, Denmark.
Responsible AI for medical imaging (Algorithmic Fairness, Explainability, Counterfactuals, Bias reasoning, Generative Modeling)
Supervisors: Aasa Feragen (principle), Siavash Bigdeli (co-supervisor)
Expected completion date: 28th Feb, 2026

2025 Spring **Visiting PhD Student**, *University of Luzern*, Switzerland.
Supervisor: Christian F. Baumgartner
Working on subgroup discovery for segmentation tasks.

2020–2022 **M.Sc. in Human-centered Artificial Intelligence**, *Technical University of Denmark*, Denmark.
GPA: 10.47/12, Deep Leaning, Explainability, Time series data

2021–2022 **Exchange Master student**, *ETH Zürich*, Switzerland.
Focus on Deep Learning & Computational Neuroscience

2016–2020 **B.Eng. in Computer Science and Technology**, *Beihang University*, China.
Focus on Deep Learning & Computer Vision

2019 Spring **Exchange Bachelor student**, *Politecnico di Torino*, Italy.

Awards & Achievements

2025 Travel grant from *Otto Mønsted Foundation* (20,000 dkk, ≈ 2600 Euro)

2025 Travel grant from DTU for external stay (25,000 dkk, ≈ 3300 Euro)

2025 Nomination from DTU for Elite Research travel grants

2024 *Otto Mønsted Foundation*'s grant for attending conference abroad (7500dkk,≈ 1000 Euro)

2024 ECCV — Oral Presentation (top 2.3% of accepted papers)

2023 Departmental Scholarship for PhD study from DTU Compute

2022 Graduated as an Honours M.Sc. student from Honours Programme DTU (top 5%)

2021 Semester scholarships from Swiss-European Mobility Programme

2020 Tuition fee waiver for 2-year's master study, DTU

Responsibilities

Reviewer

2024-present Top tier conferences, e.g. ICLR, ICCV, ECCV, MICCAI, MIDL, workshops @MICCAI/ECCV/CVPR

Academic event organizer

2025 **Medical Imaging meets EurIPS (MedEurIPS) workshop @ EurIPS**, *Organizing Team*.

2024-2025 **Talk series at the Center for Basic Machine Learning in Life Science (MLLS)**, *Talk planning team*.

Society

2025-present **High5Girls**, *Role model & Event organizer*, Team member at Personal data courses.

2025-present **RISE-MICCAI**, *Storytelling coordinator (interviews & production)*, Youtube@RISEMICCAI, Spotify@Voices of RISE MICCAI.

2024-present **Special Educational Assistance (SPS)**, *Academic support teacher*.

2020-present **Long-Legs Mailbox Projects**, *Volunteer*, Supporting left-behind children (whose parents work far away from home) in rural China by writing letters to discuss their studies and life.

2020–2024 **Women in Tech**, *Editor and Designer*, Contributed to a Douban-born initiative that grew into a non-profit producing blogs, podcasts, articles, and interviews.

2020-2021 **DTU student ambassador**, Providing insights of DTU life to prospective students.

2018-2019 **A Class in Childhood**, *Teacher*, Supporting children in primary schools in rural areas of China by teaching online lessons. Course taught: Chinese literature.

Miscellaneous

Coding Python, MATLAB, C Language, R, JAVA, PyTorch/TensorFlow, Git, Linux, Latex

Languages English (Proficient), Chinese: Mandarin/Hokkien (Native), Danish (Intermediate), Spainish (basic), Japanese (basic)

Spare time Orienteering, Trail-running, Indoor bouldering, Crossfit, Hiking, Writing, Science-fiction, Detective stories

Publications

Summary of last 3 years, *152 citations, h-index:7, i10-index:7 (Google scholar)*, 5 first-author (1 ICLR, 1 ECCV oral, 2 MICCAI, 1 workshop); 2 workshop papers from student supervision.

[11] *(Accepted at ICLR 2026)* **Nina Weng**, Aasa Feragen, and Siavash Bigdeli. Patronus: Bringing transparency to diffusion models with prototypes. *arXiv preprint arXiv:2503.22782*, 2025.

[10] Paraskevas Pegios, Manxi Lin, **Nina Weng**, Morten Bo Søndergaard Svendsen, Zahra Bashir, Siavash Bigdeli, Anders Nymark Christensen, Martin Tolsgaard, and Aasa Feragen. Diffusion-based iterative counterfactual explanations for fetal ultrasound image quality assessment. In *International Workshop on Advances in Simplifying Medical Ultrasound*, pages 174–184. Springer, 2025.

[9] **Nina Weng***, Paraskevas Pegios*, Eike Petersen, Aasa Feragen, and Siavash Bigdeli. Fast diffusion-based counterfactuals for shortcut removal and generation. In *European Conference on Computer Vision*, pages 338–357. Springer, 2024.

[8] Sara Sterlie, **Nina Weng**, and Aasa Feragen. Generalizing fairness to generative language models via reformulation of non-discrimination criteria. In *European Conference on Computer Vision*, pages 18–34. Springer, 2024.

[7] Vincent Olesen, **Nina Weng**, Aasa Feragen, and Eike Petersen. Slicing through bias: explaining performance gaps in medical image analysis using slice discovery methods. In *MICCAI Workshop on Fairness of AI in Medical Imaging*, pages 3–13. Springer, 2024.

[6] Manxi Lin*, **Nina Weng***, Kamil Mikolaj, Zahra Bashir, Morten BS Svendsen, Martin G Tolsgaard, Anders N Christensen, and Aasa Feragen. Shortcut learning in medical image segmentation. In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 623–633. Springer, 2024.

[5] **Nina Weng**, Martyna Plomecka, Manuel Kaufmann, Ard Kastrati, Roger Wattenhofer, and Nicolas Langer. An interpretable and attention-based method for gaze estimation using electroencephalography. In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 734–743. Springer, 2023.

[4] **Nina Weng**, Siavash Bigdeli, Eike Petersen, and Aasa Feragen. Are sex-based physiological differences the cause of gender bias for chest x-ray diagnosis? In *Workshop on Clinical Image-Based Procedures*, pages 142–152. Springer, 2023.

[3] Jiahao Wang, Yunhong Wang, **Nina Weng**, Tianrui Chai, Annan Li, Faxi Zhang, and Sansi Yu. Will you ever become popular? learning to predict virality of dance clips. *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)*, volume 18, pages 1–24. ACM New York, NY, 2022.

[2] **Nina Weng**, Jiahao Wang, Annan Li, and Yunhong Wang. Two-stream temporal convolutional network for dynamic facial attractiveness prediction. In *2020 25th International Conference on Pattern Recognition (ICPR)*, pages 10026–10033. IEEE, 2021.

[1] Isabel* Barradas, Agnieszka* Kloc, **Nina Weng***, and Jan Treur. A second-order adaptive network model for exam-related anxiety regulation. In *Biologically Inspired Cognitive Architectures Meeting*, pages 42–53. Springer, 2021.