Ivo de Jong, MSc

Lecturer / PhD candidate

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Skills

BCI Research

Applied Machine Learning

Uncertainty in Deep Learning

Public Speaking

Academic Writing

Hobbies

In my free time I like to go wind or kitesurfing. I've also been getting into the basics of brewing (craft)beer and mead, but I've still got a lot to learn about these things.

Highlighted Publications –

IP de Jong, LL van den Wittenboer, et al. (2024). Transferring BCI models from calibration to control: Observing shifts in EEG features, *9th GBCIC*. https://doi.org/10.3217/978-3-99161-014-4-028

IP de Jong, et al. (2024). How disentangled are your classification uncertainties?, *arXiv*. https://doi.org/10.48550/arXiv.2408.12175

IP de Jong, et al. (2023). Uncertainty Quantification in Machine Learning for Biosignal Applications – A Review, *arXiv*. https://doi.org/10.48550/arXiv.2312.09454

Peer Review

- ICML 2024
- GBCIC 2024
- NeurIPS 2024
- ECAI 2024
- ICLR 2025

Research Philosophy

My research in Machine Learning and Brain Computer Interfaces relies on empirical methods with an ultimate goal of successful translation. Translational research on Machine Learning shows which properties are needed for successful practical implementation. However, I believe that there are many ways for research to generate knowledge, and that an open and inclusive academic framework allow for a broad range of discoveries.

Teaching Philosophy

A core principal in my education concerns enabling students to develop their interests and skills. By supporting students in following up on their own ideas we can cultivate a critical research interest. This additionally instills confidence and offer a more thorough comprehension of the topic.

Education

2022-2028 PhD in Machine Learning and Neuroengineering — University of Groningen

As part of my PhD training I followed various courses to advance my research and professional skills. Topics included project management, student supervision, intercultural competences, academic writing, systemic literature search, public speaking and open access publishing.

2019-2021 MSc Artificial Intelligence — University of Groningen

In my Artificial Intelligence Master I was given more freedom to explore the topics that interest me. Courses gave much more freedom to set up projects as I see fit, which gave me a lot of space to experiment with Machine Learning and Data Science techniques. My MSc ended with a one year internship at Dataprovider.com where I did research on community detection in the Web-Graph.

2016-2019 BSc Artificial Intelligence — University of Groningen

During the Bachelor I learned about the scientific foundations of AI. The studies concluded in a final project of controlling a forest fire through Reinforcement Learning.

Professional experience

2022-2028 Lecturer / PhD candidate — University of Groningen

As a lecturer I teach courses in the domain of Applied Machine Learning and Brain Computer Interfacing. Additionally, I supervise students in their BSc and MSc thesis. As a PhD candidate I explore the implementation of Uncertainty Quantification methods to extract control intentions from EEG data.

2021-2022 Machine Learning Consultant — AI Heroes

As a Machine Learning Consultant I helped clients with any AI related issues they might have. This included the Hogeschool van Amsterdam, who wanted tailor made SQL and Python courses, but also technology investor Prosus where I helped develop an EdTech AI system for skill assessment based on Stack Exchange data.

2020-2021 Data Scientist — Dataprovider.com

As a Data Scientist I was responsible for and partook in several projects concerned with enriching the data collected. Projects include automatic company name extraction, classifying domain-names intended for phishing and identifying development agencies and their portfolios. As part of the Data Science Team I also focused on improving our development process.

2020-2021 Programme Committee AI/CCS — University of Groningen

Assess the quality of courses based on student's feedback and give recommendations for improvements. This position also included reviewing changes to the Teaching and Examination Regulations and updates in the curriculum.

2018-2020 Teaching Assistant — Rijksuniversiteit Groningen

As a Teaching Assistant I hosted computer labs and tutorials for several courses. When hosting computer labs I would help students with any questions about the assignments they may have. During tutorials I would present new material to students and guide them in discussing this. The courses that I teach concern scientific skills, AI theories and techniques including Neural Networks and Cognitive Modelling. Part of the work included grading submitted papers and assignment and give feedback.

2019-2020 Mentor — Rijkstuniversiteit Groningen

As a mentor I gave general and specific guidance to first year Bachelor and Master students. I showed them how life at university works, but was also the point of contact for any problems.

Further Publications

IP de Jong, P Manivannan, et al. (2024). Uncertainty Quantification for cross-subject Motor Imagery classification, *9th GBCIC*. https://doi.org/10.3217/978-3-99161-014-4-016

IP de Jong, L Zotos, et al. (2025). AI Methods May Actually Be Better Than Professors at Estimationg Question Difficulty, *AISEER @ ECAI*. https://doi.org/10.48550/arXiv.2508.03294.

IP de Jong, J Suurmeijer, et al. (2025) Uncertainty Quantification for Motor Imagery BCIs – Machine Learning vs. Deep Learning. *Decoding the Brain @ MLSP*. https://doi.org/10.48550/arXiv.2507.07511

M Borszukovski, IP de Jong, et al. (2025). Know What You Do Not Know: Verbalized Uncertainty Estimation Robustness on Corrupted Images in Vision-Language Models, *TrustNLP @ ACL*. https://aclanthology.org/2025.trustnlp-main.16/

MA Valdenegro-Toro, IP de Jong, et al. (2024). Unified Uncertainties: Combining Input, Data and Model Uncertainty into a Single Formulation, *LatinXinAI@ICML*. https://openreview.net/pdf?id=Y06KCLoqfJ

IP de Jong, et al. (2025) Defining Out-of-Distribution detection for EEG-BCIs. *Accepted abstract, BCI Meeting 2025*

B Renardi, IP de Jong, et al. (2025) Optimizing P300 Speller Performance through Uncertainty Quantification. *Accepted abstract, BCI Meeting 2025*

Teaching

2023-2025	Thesis supervision	University of Groningen
	Supervise 20 students with their Artificial Intelligence BSc thesis, Artificial Intelligence MSc thesis, Computational Cognitive Science research project or Computational Cognitive Science MSc thesis.	
2023-2025	Applied Machine Learning	University of Groningen
	Design and develop the course setup and material, supervise teaching-assistants and teach lectures.	
2024-2025	Trustworthy & Explainable AI	University of Groningen
	Guest lecture on Out-of-Distribution detection, and develop and teach three practicals on Explainable AI, Adverserial Attacks and Out-of-Distribution Detection.	
2024-2025	Deep Learning	University of Groningen
	Teach two lectures in the Deep Learning course, explaining Optimization and Stochastic Gradient Descent.	
2023-2025	Uncertainty in Machine Learning	University of Groningen
	Design and teach two programming tutorial sessions aimed at implementing Uncertainty Quantification models.	
2023-2025	Neuroprosthetics	University of Groningen
	Co-design and develop assessment method.	
2024-2025	Non-Invasive Brain-Computer Interfaces	University of Groningen
	Manage and set-up wet-lab demos that lets students experience recording EEG-data.	
2024-2025	Architectures of Intelligence	University of Groningen
	Manage TAs and assignments	
2024	Deep Learning for Forestry	ENLIGHT Joint course
	Develop and teach two lectures on practical advice for Deep Learning.	
2022	SQL for Finance	Hogeschool van Amsterdam
	Design and the course material.	
2022	Python for Finance	Hogeschool van Amsterdam
	Develop the course material, train other teachers, and teach students.	

Public and academic engagement

2025	AI, Ethics and Policing	Politieinnovatiehuis Noord Nederland
	Invited masterclass on ethics and AI in relation to policework. Formed a discussion on responsible use in AI within policing.	
2024	AI Champions	RDW
	Invited as expert judge to assess AI-projects at the Dutch Vehicle Authority is quality and feasibility. The best scoring project was implemented in practice.	
2024	Retrieval Augmented Generation in Oracle Cloud	Oracle & Sopra Steria
	Support a workshop organised by Oracle & Sopra Steria in which students learn about modern AI applications in cloud environments.	
2024	CogniGron at Work	Univeristy of Groningen
	Invited talk about Brain-Computer Interfaces and how this may intersect with neuromorphic computing.	
2024	Pints of Science	Independently organised
	Mini lecture on Brain-Computer Interfaces in a bar. Pints of Science aims to connect researchers with interested members of the public to engage in an informal setting.	
2023	European Researchers Night & Zpannend Zernike	Forum Groningen
	Brain-Computer Interface demonstration and a pitch talk for a general public and children.	
2023	What does an AI researcher do?	IMC Weekendschool
	In this workshop we showed 10-14 year old children of the IMC Weekendschool what Machine Learning researchers do. This included a talk about the breadth of possible topics and backgrounds, as well as hands-on experience where the children collected their own data and built their own Machine Learning model.	
2021	A.R.T. in AI: Accountability, Responsibility, Transparency	Cover
	A hybrid panel discussion of the topic of algorithmic bias with speakers from legal, academic, cybersecurity, societal and ML-professional backgrounds.	