Nardi Lam | Curriculum Vitae

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nardi

Computer Science, Physics, AI, Philosophy.
Tackling software engineering problems by
mathematical analysis.

Education

Utrecht University **Utrecht**
Master, Artificial Intelligence *2018–2020*
Thesis in the Philosophy department with title: *Black-box systems, multi-level explanation, and cognitive architectures*. Motivated a theoretical framework to describe different facets of explanations about AI systems and argued for the importance of connecting symbolic and subsymbolic computation. Additionally followed a *Complex Systems* specialisation profile, with research project: *Dimensionality reduction and trajectory grouping*. Created a specialized clustering algorithm to find groups among a large number of moving entities by unsupervised learning.

University of Amsterdam **Amsterdam**
Bachelor, Natuur- en Sterrenkunde (Physics and Astronomy) *2014–2018*
Thesis in the Physics of Living Systems group with title: *Determining suitable models for C. elegans locomotion by evaluating Lyapunov exponents*. Tried to find dynamical models (systems of coupled differential equations) with similar characteristic to the movement of the worm C. elegans.

University of Amsterdam **Amsterdam**
Bachelor, Informatica (Computer Science) *2012–2018*
Thesis at ILLC with title: *De Gebarende Wijs - Nederlandse zinnen met persoonlijke voornaamwoorden omzetten naar Nederlandse Gebarentaal*. Created a grammar-based translator between a subset of Dutch and NGT (Dutch Sign Language) gloss involving referents.

Vocational experience

Gradyent **Rotterdam**
Senior Digital Twin Engineer *2021-now*
Software engineer working on the simulation and optimization of district heating networks and other energy delivery systems. Initially helped scale up the product by bringing the codebase to a more mature state and modernizing the technology stack. Eventually shifted focus to the mathematical modelling of physical energy systems and expanding and implementing various optimization strategies in a computationally efficient manner.

Utrecht University **Utrecht**
Teaching assistant (Studentassistent) *2019-2020*
Assistant for the course Wiskunde voor KI (Mathematics for AI), in the Kunstmatige intelligentie (Artificial Intelligence) bachelor program. Getting students familiar with basic mathematics (set theory etc.) and how to read and construct proofs during problem solving sessions twice a week.

De Omslag **Amsterdam**
Lead Technical Design *2015–2018*
Developing and managing an open online discussion platform on the topic of the future of Dutch universities, academia and science (`http://omslag.de`). Planned and developed the platform backend and contributor frontend functionality (e.g. the article editor).

Hogeschool van Amsterdam **Amsterdam**
App Developer *2014–2017*
Developing an application to be supplied to people who have been in treatment for depression, as a tool to help them (and possibly their doctors) monitor their mental health. Developed for iOS and Android using C# and Xamarin (now .NET MAUI).

University of Amsterdam **Amsterdam**
Teaching assistant (Studentassistent) *2013–2015*
Assistant for the courses Inleiding programren (Introduction to Programming), Lineaire algebra KI/INF (Linear Algebra for CS), and Multimedia in the Informatica bachelor program. For Linear Algebra: clarifying mathematical concepts to a group of students in problem solving sessions twice a week. For Multimedia: introducing the students to using audiovisual signals in programming, and guiding them in completing an original end-of-year project. Also wrote a framework for multimedia programming for Android which is used by the students for practical introductory assignments.

Technology experience

Languages: C#, JavaScript, C, Java, Python, Scala, C++, PHP, SQL, R, Julia.

Platforms/Tools: Shell scripting, regex, Git, Node.js, Android, Xamarin, Mathematica, OWL, Docker, Arrow, Polars, DuckDB, JAX.

Other experience

STeLA Leadership Forum **Okinawa, Japan**
Participant *2016*
Participated in an international student-run forum, where a group of motivated students engaged in leadership and teamwork training sessions and collaborated on group projects revolving around global sustainability issues. The theme of this year was “The Future of Science and Technology”, with a strong focus on AI and how it will affect future developments in science and society.