# Nathan Cloos

PhD Student · MIT Brain and Cognitive Sciences · Computational Neuroscience

✉ cloosnathan@gmail.com  |  🏠 nacloos.github.io/  |  🐦 @nacloos

## Education

**MIT**
PhD MIT Brain and Cognitive Sciences                                       *2023 - present*
Working in computational neuroscience and AI

**UCLouvain**                                                                   *Belgium*
M.Sc. Mathematical Engineering                                              *2020 - 2023*
- Thesis advisors: Robert Yang (MIT), Frédéric Crevecoeur (UCLouvain)
- Relevant coursework: Mathematical Models in Neuroscience, Nonlinear Dynamical Systems, Statistical Field Theory, Critical Phenomena in Physics, Category Theory

**UCLouvain**                                                                   *Belgium*
B.Sc. Engineering                                                            *2017 - 2020*
- Major in Applied Mathematics
- Minor in Physics
- Relevant coursework: Introduction to Neurosciences, Philosophy of Language, Multilinear Algebra and Group Theory, Statistical Physics

## Professional Experience

**Technion**
Research Assistant in Omri Barak's lab                                      *2022 - 2023*
Studied emergent specialization in modular Recurrent Neural Network models.

**MIT**
Research Assistant in Robert Yang's lab                                     *2021 - 2022*
Developed a pipeline to train and evaluate Recurrent Neural Networks on many tasks and neural datasets.

**Ficos S.A.**
Software Developer                                                       *summer 2018 - 2019*

## Presentations

**Nathan Cloos**, Markus Siegel, Scott L. Brincat, Earl K. Miller, Christopher J. Cueva. 2024. Differentiable optimization of similarity scores between models and brains.
Oral presentation: Cosyne 2024 Workshop.

**Nathan Cloos**, Moufan Li, Guangyu Robert Yang, Christopher J. Cueva. 2022. Scaling up the Evaluation of Recurrent Neural Network Models for Cognitive Neuroscience.
Poster presentation: Cosyne 2022, CCN 2022, Bernstein 2022.

**Nathan Cloos**. 2021. On the modulatory role of the PFC in solving simple cognitive tasks.
Oral presentation: Neuromatch Conference 2021.

## Summer Schools

| | |
|---|---|
| 2023 | **Computational Approaches to Memory and Plasticity (CAMP)**, IISER Pune, India |
| 2023 | **The Computational Summer school on Modeling Social and collective behavior (COSMOS)**, Konstanz, Germany |
| 2022 | **EITN Fall School in Computational Neuroscience** , Paris, France |
| 2022 | **International Interdisciplinary Computational Cognitive Science Summer School (IICCCSS)**, Tübingen, Germany |
| 2022 | **MIT Brains, Minds & Machines (BMM) Summer Course**, Woods Hole, US |
| 2020 | **Neuromatch Academy**, Online |
| 2020 | **Regularization Methods for Machine Learning (RegML)**, Genova, Italy (online) |

## Teaching Experience

| | |
|---|---|
| Summer 2021 | **Neuromatch Academy**, Teaching Assistant |
| Fall 2020 Fall 2019 | **Linear Algebra**, Teaching Assistant |

## Awards, Fellowships, & Grants

| | |
|---|---|
| 2023-2024 | **B.A.E.F. Honorary Fellowship**, B.A.E.F. |
| 2021 | **Lhoist Berghmans Chair Scholarship**, UCLouvain |

## Extracurricular Achievements

| | |
|---|---|
| 2017 | **Winner of EBEC Engineering Challenge**, BEST Louvain-la-Neuve |
| 2016-2017 | **Represented Belgium at the European Cansat competition**, European Space Agency |
| 2015-2016 | **Winner of Cansat Belgium**, Innoviris |