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# Tomas Fiers
tomasfiers.net
github | twitter

Profile & values: Curiosity-driven Not satisfied with surface-level explanations High signal-to-noise communication Precision & correctness Good user interfaces.

Motivations: The pursuit of a proof-of-concept The *flow* during a deep session of designing / problem-solving / performance-optimization

## 1 Current position

PhD student in computational neuroscience University of Nottingham, UK Feb 2020 – Dec 2023 (expected)

Topic: Synapse-level network inference from voltage-imaging signals. Supervisors: Mark Humphries, Matias Ison

Skills trained: Modelling & simulation of complex systems Scientific software design, testing, and performance-optimization (→ Library for spiking neural network simulations) Data analysis & experimental design Maintaining a steady stream of scientific deliverables Process large amounts of new literature Communicate & summarize complex ideas Self-direction, proactiveness, and critical self-assesment

Outreach: "Julia for Scientists" talk TA & technical infrastructure for the 2022 Tutorial at COSYNE (major conference for computational & systems neuroscience) & for the COMOB project (collaborative brain modelling)

## 2 Work experience

DataCamp Data science training platform Software engineering intern Jul 2016 – Sep 2016 Leuven, Belgium Developed a complete data processing pipeline from scratch (Postgres, Redis, Node.js, React), that met the requirements for reliability, scalability, and performance, and that, last I heard, was still in use in production

Byteflies Medical wearables startup Data science intern Jul 2017 – Sep 2017 Antwerp, Belgium Validate signal quality of motion sensors (accelerometer, gyroscope, magnetometer) against golden standard (motion capture), for use in a medical device (Python data stack).

Fluves Fiber-optic industrial monitoring Business analysis intern Sep 2017 – Dec 2017 Ghent, Belgium Preparation of business plan for joint venture with offshore wind company (Excel)

## 3 Education

BSc in engineering sciences Computer science & electrical engineering Sep 2012 – Jun 2017 KU Leuven THE Ranking 2023: 42nd in World Belgium

Led the teams that won the engineering design challenge for first years (2013, 1st place) and second years (2014, 2nd place; with a project on real-time speech processing) Broad curriculum (from o.chem to semiconductor technology)

MSc in biomedical engineering Signal processing specialization Sep 2016 – Jan 2019 KU Leuven For the professional title of "burgerlijk ingenieur" (highest-level STEM degree in the country) Belgium

Some electives: Nonlinear dynamical systems Multivariate & robust statistics Two Bayesian modelling courses Three machine learning and AI courses IT security Computational & Systems neuroscience

Master thesis: Real-time signal detection for closed-loop, in-vivo neuroscience. (Detection of sharp-wave ripples on electrodes implanted in the hippocampus, Kloosterman lab, at Neuro-Electronics Research Flanders). Filter design & analysis RNN training & evaluation GUI development for data annotation 3D brain viewer

## 4 Languages

Expert: Julia Python

Productive: OCaml R SQL C TypeScript React.js Kotlin LaTeX Command-line tools French