

# Anthony M. V. Jakob

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## CONTACT INFORMATION

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Web: <https://amvjakob.github.io>

## EDUCATION

**Harvard University** 2021 - 2022  
Master's Thesis, Computational Neuroscience  
Advisor: Sam Gershman

**École Polytechnique Fédérale de Lausanne** 2019 - 2022  
M.Sc., Biomedical Engineering and Computational Neuroscience

**École Polytechnique Fédérale de Lausanne** 2016 - 2019  
B.Sc., Biomedical Engineering  
Exchange year at UBC (2018 - 2019), Computer Science

## PROFESSIONAL EXPERIENCE

**Clubhouse Hockey** 2020 - 2022  
Full-Stack Software Engineer

**Centre Hospitalier Universitaire Vaudois** 2020 - 2021  
Data Scientist

**Infinight** 2017 - 2020  
Software Engineer, Web and Application Development

## HONORS AND AWARDS

Bertarelli Fellowship in Translational Neuroscience and Neuroengineering 2021 - 2022

EPFL Excellence Fellowship 2019 - 2020

EPFL Mobility Fellowship 2018

Meyer Award 2015

## PUBLICATIONS

**Jakob, A.M.V.** and Gershman, S.J. (submitted). [Rate-distortion theory of neural coding and its implications for working memory.](#)

	<b>Jakob, A.M.V.</b> , Mikhael, J.G., Hamilos, A.E., Assad, J.A., Gershman, S.J. (submitted). <b>Dopamine mediates the bidirectional update of interval timing.</b>	
RESEARCH EXPERIENCE	<b>Laboratory of Computational Neuroscience, EPFL</b> 2020 Neural signatures of surprise and surprise-based learning in the human brain (Julia, <b>Code</b> )	
	<b>Solar Energy and Building Physics Laboratory, EPFL</b> 2019 SwissPV: Swiss household-level solar panel identification from ortho-rectified satellite images (Python, <b>Code</b> )	
TEACHING EXPERIENCE	<b>PHYS-207: Quantum Physics, EPFL</b> 2020 Instructor: Giovanni Dietler	
	<b>PHYS-201: Electromagnetism, EPFL</b> 2019 Instructor: Giovanni Dietler	
	<b>BIO-201: Simulations of Neural Networks, EPFL</b> 2019 Instructor: Jacques Rougemont	
	<b>CS-119: Organic Chemistry, EPFL</b> 2018 Instructor: Luc Patiny	
	<b>CH-160: Advanced Chemistry, EPFL</b> 2017 Instructor: Samuel Terrettaz	
	<b>CS-119: Information Technology, EPFL</b> 2017 Instructor: Anastasia Ailamaki, Marcel Salathé	
	<b>Sophomore Mathematics, Gymnasium Kirchenfeld</b> 2015 Instructor: Anthony Jakob	
INVITED TALKS	NiH Site Visit Symposium. November 23rd, 2021. Harvard Center for Brain Science (CBS) Seminar. October 1st, 2021.	
LANGUAGES AND FRAMEWORKS	<b>English</b> (Native), <b>French</b> (Native), <b>German</b> (Native), <b>Italian</b> (B2), <b>Spanish</b> (B2) <b>Python</b> (Numpy, Pandas, Pytorch, Tensorflow, Keras), <b>Julia</b> (Flux.jl, Turing.jl), <b>Dart</b> (Flutter), <b>JS / TS</b> (Node.js, Express, Angular, Deno), <b>Bash</b> , <b>C++</b> , <b>Java</b> , <b>MATLAB</b> , <b>PHP</b> , <b>R</b> , <b>SQL</b>	

## SKILLS

**Fundamentals:** Parallel and distributed computing, Unit testing, CI/CD (Jenkins), Cloud computing (Google Cloud), Agile development, Version control (Git)

**Programming:** Data structures, Optimization (Duality), Linear programming, Dynamic programming, Probabilistic programming

**Machine learning:** Random Forest, SVM, KNN, PCA, ICA, NNMF, GLM, Graphical models, Deep learning, Reinforcement learning, Computer vision

**Web development:** Frontend, Backend, REST API, Database management

## SERVICE AND OUTREACH

**Data Analytics Group, EPFL** 2020 - 2022  
Co-Founder of **Data Analytics Group at EPFL**, a student association promoting Data Science on campus

**Swiss Sequoia Club** 2020 - 2022  
Co-Founder of **Swiss Sequoia Club**, a platform for entrepreneurship-minded students from EPFL, ETH and HSG

**Education Outreach Department Representative, EPFL** 2019 - 2020  
Promotion of EPFL in German-speaking Switzerland

**AISEC Lausanne** 2019 - 2020  
Data Analyst

**Life Science Engineering Association, EPFL** 2017 - 2018  
Vice-President of Events committee

**Coach for first-year students, EPFL** 2017 - 2018