

# Felipe Yáñez

<https://felipeyanez.github.io>

## Experience

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### **Max Planck Institute for Neurobiology of Behavior, Bonn, Germany (10.2017–Present).**

- Doctoral researcher measuring a representative multi-modal sample of cortical interneurons.
- Generating a large database of molecular, physiological, and morphological properties as a function of cortical depth, and then robustly classifying them into cell types.
- Developing self-supervised models to relate cellular properties and in vivo activity function.

### **Decision Sciences Area, INSEAD, Fontainebleau, France (04.2016–09.2017).**

- Worked as a Software Engineer developing a multi-task learning algorithm with smooth evolution over time to understand structural connectivity patterns of dynamic networks.
- Added and improved many methods of the INSEAD Analytics libraries, such as causal algorithms.

### **Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany (01.2015–03.2016).**

- Worked as a Software Engineer developing classification and dimensionality reduction techniques to analyze decision-making based on whole-brain neural activity.

### **INRIA—École normale supérieure, Paris, France (04.2014–09.2014).**

- Master Student supervised by Prof. Francis Bach. Proposed efficient first-order primal-dual algorithms with certificates of optimality to solve the non-negative matrix factorization problem.

### **Pontificia Universidad Católica de Chile, Santiago, Chile (08.2012–07.2013).**

- Master Student supervised by Prof. Pablo Irarrázaval. Proposed a sparse unsupervised learning technique for fast MRI reconstruction.

### **INRIA—Neurospin Research Center, Paris—Saclay, France (01.2013–03.2013).**

- Research intern supervised by Prof. Bertrand Thirion. Improved the fit of functional MRI data through the use of sparse linear models.

### **Massachusetts Institute of Technology, Cambridge, MA, USA (09.2012–10.2012).**

- Visiting Student supervised by Prof. Elfar Adalsteinsson. Developed a new reconstruction technique for susceptibility imaging of the brain.

## Education

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### **Eberhard Karls Universität Tübingen, Tübingen, Germany (2024).**

Ph.D. in Computer Science.

Associated member of the International Max Planck Research School for Intelligent Systems.

Thesis: “On the organizing principles of cortical interneurons.”

Supervisors: Prof. Jakob H. Macke and Prof. Dirk Feldmeyer.

### **École normale supérieure Paris-Saclay, Gif-sur-Yvette, France (2014).**

M.S. (Honors) in Applied Mathematics, Computer Vision, and Machine Learning.

Thesis: “Efficient algorithms for non-negative matrix factorization beyond the square loss.”

Supervisor: Prof. Francis Bach.

### **Pontificia Universidad Católica de Chile, Santiago, Chile (2014).**

Diploma (Honors) in Electrical Engineering. Minor coursework in Design.

Internships: The ABB Group, MRI Group at MIT, and Parietal Team at Inria Paris-Saclay.

## Awards & Scholarships

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8.	NeuroData Discovery Award, The Kavli Foundation, Los Angeles, CA, USA.	12.2023
7.	FELASA Function A/D certification, Humboldt-Universität zu Berlin, Berlin, Germany.	06.2021
6.	BSF Fellow, Wilbe Science, London, UK.	04.2021
5.	Travel Grant Award, IEEE Signal Processing Society, Piscataway, NJ, USA.	01.2017
4.	French government scholarship, Embassy of France, Santiago, Chile.	10.2013–09.2014
3.	Science and Technology fellowship, Ministry of Education, Santiago, Chile.	01–03.2013
2.	MIT-UC fellowship, MISTI Global Seed Funds, Cambridge, MA, USA.	09–10.2012
1.	Bicentennial scholarship, Ministry of Education, Santiago, Chile.	03–12.2012

## Leadership

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### **Deep Learning Indaba. (01.2021–Present).**

- Mentor sharing my skills and experiences with early career researchers from the African AI community.

### **Bonn Rugby Union Club, Bonn, Germany. (09.2019–Present).**

- Volunteer Rugby trainer for children under 10 years old.
- Certified by World Rugby in First Aid in Rugby (L1).

### **Volta UC–The first technological documentary made in Chile. (11.2010–06.2012).**

- Team member then Captain of a group of students that developed a 60 kW electric vehicle and professionally managed the process of production using first class components.
- Designed an attractive business model to finance our entrepreneurship.
- More info: <https://felipeyanez.github.io/undergrad/volta-uc.html>

## Development of Technical Skills

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4.	Neuromatch Academy – Deep Learning course (online).	08.2021
3.	Become a Science Founder Fellowship (online).	03–04.2021
2.	Machine Learning Summer School (29 <sup>th</sup> edition), Kyoto, Japan.	08–09.2015
1.	G-Node Workshop on Efficient Data Management in Neuroscience, Munich, Germany.	06.2015

## Additional information

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**Language:** Spanish (native), English (fluent), and German (good command).

**Nationality:** Chilean, EU permanent resident.