Victoria Shevchenko

PhD | AI Researcher

Residence: Paris, France
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Education

2023-2025 **PhD, Cognitive Neuroscience**, *Université Paris Cité.*
- Research on brain functional connectivity as a biomarker of psychopathology and cognitive ability. Supervisors: Dr. Daniel Margulies (DR CNRS) & Dr. Demian Wassermann (DR Inria)
- CDSN PhD Grant (*Contrat Doctoral Spécifique Normalien*)

2020–2023 **Diploma of Grande École, Cognitive Science**, *École Normale Supérieure (Ulm).*
- *Normalienne Sélection Internationale* (study grant).
- Extensive training in research methodology (neuroscience), deep learning & computational biology

2020–2022 **M.Sc. Cognitive Science**, *Université Paris Cité.*
- Major in cognitive psychology, training in programming & advanced data analysis for life sciences.
- 5th in class ranking

2019–2020 **Erasmus**, *Université Sorbonne Nouvelle.*
Language acquisition & speech pathologies, political linguistics, language teaching, programming for natural language processing (NLP).

2017–2020 **BA. French Linguistics**, *University of Helsinki.*
Minor in cognitive science, linguistics, corpus statistics, natural language processing (NLP).

2012–2015 **B.Eng. Mechanical Engineering**, *LAB University of Applied Sciences.*
Majored in mechanics and design. Bachelor's thesis on vibration reduction in turning operations.

Work Experience

2025–now **AI Research Scientist**, *Sigma Nova.*
Developing foundation models for macroscale brain data (EEG, MRI). Conducting large-scale model training as well as fundamental neuroscience research.

2023–2025 **Researcher in Machine Learning**, *Inria Saclay, Université Paris Cité.*
Working on a contrastive deep learning model applied to fMRI and clinical data. Gained experience in machine learning, high-performance computing and research & software project management. Supervised research interns (engineering students). Visiting Researcher at the Wellcome Centre for Integrative Neuroimaging, University of Oxford.

2022–2023 **Data Scientist**, *Integrative Neuroscience & Cognition Center, CNRS.*
Worked on machine learning applications to functional MRI in computational psychiatry.

2021–2022 **Research Intern**, *Institut du Cerveau, Paris.*
Designed and conducted an experimental paradigm involving healthy human subjects. Ensured GDPR compliance in management of clinical data. Clinical data acquisition, preprocessing, statistical analysis, supervision of incoming interns.

Summer 2021 **Research Intern**, *Integrative Neuroscience & Cognition Center, CNRS.*
Studied links between brain function and depression. Performed advanced statistical analysis in Python.

2020–2021 **Research Intern**, *Laboratoire de Sciences Cognitives et Psycholinguistique, Paris.*
Studied the relationship between IQ and psychopathology. Main tasks: statistical analysis (R) and scientific writing.

Teaching

Supervision **Malo Renaudin**, graduate student, HEC, École Polythechnique, Paris, 2024-2025

Supervision **Vincent Kreft**, undergraduate student, University of California, Berkeley, 2023

Teaching **Methods in Neuroimaging**, CogSup (Master's), Université Paris Cité, Paris, Dec. 2024

Teaching **Mechanics**, tutoring sessions, LAB University of Applied Sciences, Finland, 2014

Teaching **Strength of Materials & Statics**, tutoring sessions, LAB University of Applied Sciences, Finland, 2014

Software Contributions

Open-Source **Python:** Nilearn, Scikit-Learn, skrub, BrainSpace, hyppo, surfdist

Hackathon **Bio x AI, 2nd prize:** Prediction of survival time from CT scans of lung cancer patients. Organized by *Entrepreneur First*

Hackathon **AI Action Summit:** Developed an LLM-based pre-consultation symptoms evaluation system for an effective triage of patients requesting an emergency appointment. Organized by *Doctolib*.

Skills

Languages English (C2), Russian (native), French (C2), Finnish (B1)

Science & Data Python, R, Github, high-performance computing (Jean Zay, Oxford BMRC, CINECA Leonardo), cloud computing (Scaleway), statistics & machine learning, scientific writing, PyTorch, Scikit-Learn, Optuna, Hydra, Weights & Biases, LlamaIndex, mlflow, distributed training

Soft Skills Project management & coordination, leadership, public speaking, negotiations

Publications

Article **Shevchenko, V.**, Benn, R.A., Scholz, R., Wei, W., Pallavicini, C., Klatzmann, U., Alberti, F., Satterthwaite, T. D., Wassermann, D., Bazin, P.-L., & Margulies, D. S. (2024). **A Comparative Machine Learning Study of Connectivity-Based Biomarkers of Schizophrenia.** *Scientific Reports*. https://doi.org/10.1038/s41598-024-84152-2

Article **Shevchenko, V.**, Labouret, G., Guez, A., Côté, S., Heude, B., Peyre, H., & Ramus, F. (2023). **Relations between intelligence index score discrepancies and psychopathology symptoms in the EDEN mother-child birth cohort.** *Intelligence*. https://doi.org/10.1016/j.intell.2023.101753. HAL : https://hal.science/hal-04106374

Article Wei, W., Benn, R. A., Scholz, R., **Shevchenko, V.**, Klatzmann, U., Alberti, F., Chiou, R., Wassermann, D., Vanderwal, T., Smallwood, J., & Margulies, D. S. (2024). **A function-based mapping of sensory integration along the cortical hierarchy.** *Communications Biology*, 7(1), 1593. https://doi.org/10.1038/s42003-024-07224-z

In prep. **Shevchenko, V.**, Barbano, C. A., Renaudin, M., Scholz, R., Benn, R. A., Wei, W., Klatzmann, U., Alberti, F., Bazin, P.-L., Satterthwaite, T. D., Margulies, D. S. & Wassermann, D. (2025) **Contrastive Learning for Joint Brain-Behavior Embeddings.**

Preprint Scholz, R., Benn, R. A., **Shevchenko, V.**, Klatzmann, U., Wei, W., Alberti, F., Chiou, R., Zhang X.-H., Leech, R., Smallwood, J., & Margulies, D. S. (2024) **Individual brain activity patterns during task are predicted by distinct resting-state networks that may reflect local neurobiological features.** *bioRxiv*. https://doi.org/10.1101/2024.11.13.621472

Preprint Benn, R. A., Scholz, R., Wei, W., Alberti, F., **Shevchenko, V.**, Klatzmann, U., Holmes, A., Chiou, R., Pallavicini, C., Leech, R., Smallwood, J., Jeffries, E., Bazin, P.-L., & Margulies, D. S. (2024) **The intrinsic cortical geometry of reading.** *bioRxiv*. https://doi.org/10.1101/2025.03.10.641861

Preprint Bendou, Y., Ezzahir, O., Fernandes Montesuma, E., Mahuas, G., **Shevchenko, V.**, & Gartrell, M. (2025) **ReBaPL: Repulsive Bayesian Prompt Learning.** *bioRxiv*. https://doi.org/10.48550/arXiv.2511.17339

Conferences

Poster **Shevchenko, V.**, Benn, R. A., Scholz, R., Wei, W., Pallavicini, C., Klatzmann, U., Alberti, F., Satterthwaite, T. D., Wassermann, D., Bazin, P.-L., & Margulies, D. S. (2024). **A Comparative Machine Learning Study of Connectivity-Based Biomarkers of Schizophrenia.** *Organization for Human Brain Mapping (OHBM)*. Poster n. 497, https://doi.org/10.52294/001c.120592

Poster **Shevchenko, V.**, Coudriet, G., Ferreres, I., Martel, A., & Valero-Cabré, A. (2024). **Effect of Theta Entrainment on Mind-Wandering, Executive Control and Behavioral Variability: An Online TMS-EEG Study.** *Brain Stimulation*. Poster n. P2.121, http://dx.doi.org/10.1016/j.brs.2023.01.598

Peer Review

Journal *Neuroinformatics*, Springer Nature