

RAJSURYAN SINGH

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EDUCATION	Universitat Pompeu Fabra, Barcelona, Spain Master's in Sound and Music Computing <i>Thesis</i> - Multimodal Urban Scene Understanding Founded a Cognitive Science Journal Club , now recognised by the CSIM faculty	Oct 2021 – Sep 2022
	Indian Institute of Technology, Roorkee, India Bachelor of Technology in Biotechnology <i>Thesis</i> - Transcriptomics of Rice Crown Root Development	Jul 2016 – May 2020
MOOCS	Machine Learning, Deep Learning Specialisation, Computational Neuroscience, Object-Oriented Programming, Linear Algebra, Probability Theory, Statistics, Reinforcement Learning, Data structures and Algorithms	
PROFESSIONAL EXPERIENCE	Senior Machine Learning Engineer Eodyne Systems, Barcelona	Feb 2023 – Ongoing
	Full-stack Software Developer EarthPulse, Barcelona	Sep 2022 – Feb 2023
	Machine Learning Research Consultant Quantrium AI, Fairfax, VA	Dec 2020 – Sep 2021
PUBLICATIONS	<i>Cybernetic Intervention in Stroke Neurorehabilitation, Living Machines 2025</i> Google Scholar	2025
	D. Aviñó, R. Singh , A. Mura, P. Verschure	
	<i>FlowGrad: Using Motion for Visual Sound Source Localization, ICASSP 2023</i> poster presentation code	2023
	<i>Dynamic cluster structure and predictive modelling of music creation style distributions, Royal Society Open Science 9 (11), 220516</i> R Singh , E Nakamura	2022
	<i>Species-specific function of conserved regulators in orchestrating rice root architecture, Development</i> T. Garg, Z. Singh, K. Chennakesavulu, A. K. Dwivedi, V. Varapparambathu, H. Singh, R. Singh , D. Sircar, D. Chandran, K. Prasad, M. Jain, S. R. Yadav	2022
PROJECTS	LATENT LEARNING IN REWARD-FREE EXPLORATION code presentation Replicated findings from Edward Tolman's latent learning experiment using RL	

REPRESENTATIONS IN BIOLOGICAL AND ARTIFICIAL COGNITION  [paper](#)

This paper compares internal representations in biological and artificial cognitive agents through the lenses of psychology, neuroscience, and artificial intelligence.

TOPIC MODELLING OF HARMONY AND TIMBRE IN POPULAR MUSIC  [code](#)

Generated a pop music dataset and studied the evolution of harmonic and timbral characteristics

SOLO BASS PERFORMANCE TOOLKIT  [presentation](#)

Rhythm-guided drum generation and loop-station for solo-bass guitar performances

SCHOLARSHIPS AND AWARDS	<i>Dean's Letter of Appreciation 2018, IIT Roorkee</i>
	<i>MCM Scholarship 2017, IIT Roorkee</i>

SERVICE	General Secretary <i>Music Section, IIT Roorkee</i>	July 2019 – May 2020
	Editor <i>Geek Gazette, IIT Roorkee</i>	Sep 2016 – May 2020
	Teaching Volunteer <i>National Service Scheme, IIT Roorkee</i>	Sep 2016 – May 2018

REFERENCES	Magdalena Fuentes Assistant Professor, New York University mfuentes@nyu.edu
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