

RESEARCH INTERESTS	Interpretability & Fairness, ML & Sustainability, Multi-agent Systems & Game Theory	
EDUCATION	University of Amsterdam , Amsterdam, Netherlands Master in Science, Artificial Intelligence	<i>Grade:</i> 8.5/10.0 Sept 2022 - Present
	Pune Institute of Computer Technology (Pune University), Pune, India Bachelor of Engineering, Computer Engineering	<i>Grade:</i> 9.72/10.0 Aug 2015 - Jun 2019
PUBLICATIONS	[Re] Reproducibility Study of “Label-Free Explainability for Unsupervised Models” [Paper, Code] Accepted at ML Reproducibility Challenge 2022 to be presented at <i>NeurIPS</i> , 2023. Avik Pal, Valentin Pariza, Madhura Pawar , Quim Serra Faber.	
RESEARCH EXPERIENCE	Fairness in Link-Recommendation Algorithms <i>Guide:</i> Prof. Fernando Santos, University of Amsterdam	Master’s Thesis Nov 2023 - Present
	<ul style="list-style-type: none"> Currently assessing the how fairness of link-recommendation algorithms vary with differences in minority sizes and homophily 	
	Fairness in Link Prediction Through Active Learning [Report, Code]	Dec 2023
	<ul style="list-style-type: none"> Designed an active learning loop that steer the link recommender algorithm (Node2Vec) to generate link predictions in a way that minorities are well-represented within the community. Introduced two metrics to evaluate how important minority nodes become over time and how much they disperse within local communities to improve their representation. 	
	Animal Social Network Visualization [Report, Code] <i>Guide:</i> Prof. Marcel Worring, University of Amsterdam	June 2023
	<ul style="list-style-type: none"> Devised and developed an interactive dashboard that quantifies and visualizes the social structure of animal social networks at node & network levels. Also provided visualizations for the evolution of the network and communities formed over time Predicted future links on adding new nodes using the Variational Graph Auto-Encoder model 	
	Assessing Long Rang Graph Benchmark Datasets [Blog Post, Code]	April 2023 - May 2023
	<ul style="list-style-type: none"> Explored and implemented alternative approaches in mitigating Long Range Interactions (LRI) Improved the performance using $E(n)$-Invariant and $E(n)$-Equivariant algorithms and by using Jumping Knowledge representations on the node classification task 	
	Hitting “Probe”rty with Non-Linearity [Report, Code]	April 2023 - May 2023
	<ul style="list-style-type: none"> Reformulated the design of non-linear structural probes making its design simpler yet effective Designed a visualization framework that lets us qualitatively assess how strongly two words in a sentence are connected in the predicted dependency tree 	
	Reproducibility Study of “Label-Free Explainability for Unsupervised Models”	Jan 2023
	<ul style="list-style-type: none"> Reproduced the main experiments of the original paper to assess its main claims Extended its techniques and designed experiments for graph datasets to assess the robustness of its methods 	
PROFESSIONAL EXPERIENCE	KlearStack Software Engineer AI-driven OCR and Intelligent Data Extraction Software	Pune, India June 2021 - July 2022
	<ul style="list-style-type: none"> Developed a back-end module for extracting information from handwritten mandate forms to validate their authenticity. Witnessed a volume of 2000 forms per day being processed seamlessly. Implemented heuristic generalized algorithms for template-less data extraction from invoices Set up auto-language detection and translation pipeline to provide multi-lingual invoice support 	

	Credit Suisse Software Engineer	Pune, India
	Full Stack Developer in the Group Chief Technology Officer	June 2019 - May 2022
	<ul style="list-style-type: none"> • Built a web-app predicting the closing date of incoming service requests. Analyzed and trained a variety of predictive models post data cleaning and preprocessing. • Developed the client-side module using ReactJS, Java Spring Boot, and Flask Python & Impala for database querying where a service owner assesses his service based on pre-defined metrics 	
	BMC Software Student Intern	Pune, India
	Sponsored Project by BMC Software, Inc	July 2018 - May 2019
	<ul style="list-style-type: none"> • Designed and built an application that initiates Business Continuity and Disaster Recovery in case of organizational failure due to a natural disaster 	
ACADEMIC PROJECTS	Realtime Vision Descriptor	National finalist, <i>Smart India Hackathon</i> March 2019
	<ul style="list-style-type: none"> • Built a system that describes the situation captured by a mobile camera lens in natural language and performs primitive tasks over voice commands 	
	Classification of Plant Diseases using Neural Networks [Code]	Jan 2018 - Mar 2018
	<ul style="list-style-type: none"> • Designed a CNN model that classifies the disease a specific crop is infected given the leaf image 	
ACHIEVEMENTS	Overall University Rank 1 in Computer Engg. across 90 colleges of Pune University	2019
	Recipient of the BMC Software Scholarship for standing 1st in Computer Engg. Dept.	2018
	Awarded G. Chordia Scholarship for outstanding performance in Engg. Math	2017
NOTABLE COURSEWORK	Machine Learning 1 and 2	Fairness, Accountability, Confidentiality, and Transparency in AI
	Deep Learning 1 and 2	Human-in-the-Loop Machine Learning
	Software Modeling & Design	Design & Analysis of Algorithms
	Multimedia Analytics	Natural Language Processing 1 and 2
TEACHING ASSISTANCE	Information Retrieval 1 <i>Instructor:</i> Prof. Andrew Yates	Feb 2024 - Ongoing
	Fairness, Accountability, Confidentiality, and Transparency in AI &	Jan 2024
	Fundamentals of Data Science <i>Instructor:</i> Prof. Fernando Santos	Sep 2023 - Oct 2023
	Deep Learning 1 <i>Instructor:</i> Prof. Yuki Asano	Nov 2023 - Dec 2023
	<ul style="list-style-type: none"> • Responsible for evaluation of assignments and exams • Mentored students with the course content and course project implementations 	
TECHNICAL SKILLS	Programming Languages	Python, Java, ReactJS, JavaScript, HTML/CSS, PHP
	Frameworks & Libraries	PyTorch, NumPy, Django, Flask, OpenCV, Scikit-learn
	Databases	MongoDB, MySQL, Impala, Oracle
POSTIONS OF RESPONSIBILITY	Treasurer & Content Writer, National Service Scheme	Mar 2018 - Mar 2019
	<i>Student-volunteer body of PICT</i>	
	<ul style="list-style-type: none"> • Managed funding & expenditure of NSS activities; Raised funds towards Kerala flood relief • Started an online campaign Deed of the Week highlighting the kind acts of people 	
	Volunteer, National Service Scheme	Apr 2017 - Mar 2018
	<ul style="list-style-type: none"> • Ideated and led the Awareness drive on Malaria & Dengue in slums near Parvati hill, Pune • Organised an event thanking police officers, distributed 150 letters for ensuring citizen safety 	
EXTRA CURRICULAR ACTIVITIES	<ul style="list-style-type: none"> • Secured 3rd position in the Innovative Idea for Smart Village Development competition sponsored by Department of NSS, Pune University and IEEE Bombay Section • Scripted, directed & acted in a play for the Diversity & Inclusion event by Credit Suisse to spread awareness about generational diversity. • Secured Special Mention in thINK competition, Socio-Art competition by NSS IIT Bombay. 	