Ravinithesh

DIGITAL HUMANITIES PH.D CANDIDATE · EPFL

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Education

École Polytechnique Fédérale de Lausanne (EPFL)
Lausanne, Switzerland

PH.D., DIGITAL HUMANITIES
2022 - Present

- *Relevant Coursework:* Network Machine learning.
- *Thesis*: Frameworks for Data Assisted Participatory Decision Making.
- *Advisor*: Prof. Daniel Gatica-Perez
- *GPA*: 5.5/6

EPFL
Lausanne, Switzerland

MASTER OF SCIENCE (M. Sc), DIGITAL HUMANITIES
2020 - 2022

- *Relevant Coursework:* Foundation of Digital Humanities, Computational Social Media, History and the Digital, Applied Data Analysis, Deep Learning, Digital Education, Cultural Data Sculpting, Distributed Information Systems, Digital Musicology, Design Research.
- *Thesis*: Searching for visual patterns in a children's drawings collection
- *Advisor*: Prof. Frédéric Kaplan
- *GPA*: 5.64/6

Mahindra École Centrale (MEC)
Hyderabad, India

BACHELOR OF TECHNOLOGY (B.Tech), COMPUTER SCIENCE AND ENGINEERING
2014 - 2018

- *Relevant Coursework:* Artificial Intelligence, Machine Learning, Data Mining, Database Management Systems, Web Programming, Design Thinking, Cinema & Philosophy, Modern Culture & Philosophy, Urban Studies.
- *Thesis*: Adaptive Learning in Extreme Learning Machines
- *Advisor*: Prof. Arya Kumar Bhattacharya
- *GPA*: 9.88/10 (last year); 9.21/10(overall).

Experience

Idiap Research Institute
Martigny, Switzerland

RESEARCH ASSISTANT, SOCIAL COMPUTING GROUP
Oct. 2022 - Present

- Working on designing computational tools for urban security missions, together with multiple European cities and NGOs, following a human-centered methodology as part of the *IcARUS* project, funded under the European Union H2020 program.

École Polytechnique Fédérale de Lausanne
Lausanne, Switzerland

MASTER THESIS STUDENT, DIGITAL HUMANITIES LABORATORY
Mar. 2022 - Jul. 2022

- Developed a deep learning system to mine the children's drawings database of the Louis François center for UNESCO to find patterns linked with famous artworks.

Institut national d'histoire de l'art
Paris, France

RESEARCH INTERN, SERVICE NUMÉRIQUE DE LA RECHERCHE (DIGITAL RESEARCH)
Sep. 2021 - Feb. 2022

- Part of the RICH.DATA team.
- Developed a *pipeline* for post-processing correction of OCRized historical documents using the data itself with minimal external data.
- Using the developed pipeline, cleaned and published dataset of People in 19th century Paris extracted from the city directories.

Ground Inc.
Tokyo, Japan

DATA SCIENTIST, ALGORITHM AND PRODUCT DEVELOPMENT
Nov. 2018 - Sep 2020

- Part of the team that develops algorithms to model a warehouse for optimizing the cost involved in logistic operations.
- *GCODE*
  Developed a Python tool to create a data set of point clouds and performed object classification using them.
- *Automatic Buffer Inserter*
  Developed a Python program to suggest coordinates to a robot to place the buffer material in the delivery box to protect the items from damage.
- *Development of DyAS*
  Developed variants of Dynamic Inventory Allocation software - that suggest the best locations for stock expecting future orders and Dynamic Resource Allocation software - that combines and schedules orders in a warehouse to reduce lead fulfillment time.

MEC
Hyderabad, India

RESEARCH ASSISTANT, PROF. ARYA KUMAR BHATTACHARYA
May. 2017 - Jul. 2017

- Developed a neural network based system that can predict adverse digressions in a noisy industrial process using Extreme Learning Machines.

MEC & Tech Mahindra

RESEARCH ASSISTANT, PROF. ARYA KUMAR BHATTACHARYA

Hyderabad, India

Aug. 2015 - Feb. 2016

- Developed Machine Learning solutions to predict i) load on a transformer and ii) the expected number of Electric Vehicles using Artificial Neural Nets for the *Smart Grids of Ontario, Canada*.

Publications

Adaptive Critic Design for Extreme Learning Machines applied to noisy and drifting industrial processes

RAVINITHESH A, A.K. BHATTACHARYA AND NIRANJAN REDDY M

IEEE Symposium Series on Computational Intelligence

2018

Advance Predictions of critical digressions in a noisy industrial process - performance of Extreme Learning Machines versus Artificial Neural Networks

RAVINITHESH A, A.K. BHATTACHARYA AND G. RISHITA

IFAC International Conference on ACODS

2018

Extreme Learning Machines with Frequency-based noise filtering for prediction of critical digressions in a noisy industrial process

ADITYA GUPTA, MANIKUMAR PLN, RAVINITHESH A, ARYA K. BHATTACHARYA

IEEE India Council International Conference

2017

Magnetic Metamaterials: A comparative study of resonator geometry and metal conductivity

SHASHANK R, RAVINITHESH A, K SREEKAR, KAUSIK B, MURTAZA B AND DIBAKAR R C

IUPAP Conference on Computational Physics

2016

Invited Talks

Artwork patterns in a children's drawings

At Institut Mondial d'Art de la Jeunesse - Centre pour l'UNESCO

Troyes, France

July, 2022

Results of exploring a recently digitized children's drawings collection ans using deep learning models for matching drawings with popular cultural objects.

Algorithms for Intelligent Logistics

INDIAN INSTITUTE OF TECHNOLOGY - HYDERABAD

Hyderabad, India

Sep, 2019

Using Machine Learning for optimizing logistics operations and personal journey in Japan

Academic Projects

Empowering Communities in the Policy Process: Data-Assisted Cross Boundary Multi-Stakeholder Participatory Model

PhD Work

Spring 2023

A multi-stakeholder governance network model for preventing juvenile delinquency utilizing a Participatory Data Action framework to empower communities and bridge the gap between governance institutions and the citizens for more transparent, trusted, and effective urban governance.

Enhancing Urban Neighborhood Policing Strategies through Data-Driven Adaptations

PhD Work

Fall 2022

Developed a resourceful approach that combines data-driven insights with citizen perceptions to optimize community police deployment for creating safer, inclusive communities leveraging technology, data, and community engagement for informed, responsive, and democratic governance.

TikTok and the US election

Computational Social Media

Spring 2021

Analyzing the hashtags and challenges on TikTok related to the 2020 US Presidential election showed that youth are also concerned about issues but use non-traditional means of communication and dialogue.

Hollywood and the Pentagon

History and the Digital

Spring 2021

Analyzing the Hollywood movies that received assistance from the US Department of Defense (DoD) using the language processing techniques revealed that the DoD help was biased towards those providing a good outlook.

Tonality in non-western music

Digital Musicology

Spring 2021

Research on the cross-culturality of tonality in music by statistically analyzing modal music of Chinese Folk Songs revealed deep cross-regional similarities highlighting the directedness of music across all the examined regions.

Face of the War   *Cultural Data Sculpting*

                                                                  Spring 2021

Interactive visualization of the Great War soldiers. While presenting the portraits of soldiers along with their records, the visualization manifests the question, who is the real face of the war?

Famous World   *Data Visualization*

                                                                  Spring 2021

Developed a spatial visualization platform to display famous people from Pantheon based on their birthplace.

Terzani Online Museum   *Foundation of Digital Humanities*

                                                                    Fall 2020

Developed an _online platform_ to access the photo collection of Mr. Terzani through text and image based search.

Training

Science and Policy – How to bridge the gap?   *Summer School*

EPFL - ETHZ   *July 2023*

- Took part in the summer school to understand aspects of the Swiss and international science-policy interface and effective engagement with policymakers through science communication.

Technology Entrepreneurship Program   *Research & Product development*

Indian School of Business   *May 2016 – May 2018*

- Created a working prototype and business plan for a system that enables the dairy farmers to do business, without the need for middlemen.

Skills

Programming

Python, C++, MATLAB, MySQL, Pybind, HTML/CSS, Latex

Softwares and Services

Docker, Git, AWS GCP and Adobe Premiere Pro.

Languages

English (Fluent), French (Elementary), Japanese (Elementary), Hindi (Fluent), Telugu(Mother Tongue).

Honors & Awards

Scholarship   *MEC*

Received merit scholarship for three consecutive years at Mahindra École Centrale.   *2014 - 2017*

Co-Curricular Activities

Secretary, Digital Humanities Association (dhelta)   *EPFL*

Collaborated with association members to organize debates, conferences, and events related to Digital Humanities   *2023 - Present*

Class Delegate, Digital Humanities Section   *EPFL*

Represented the students of Digital Humanities department in various fronts and academic councils at EPFL.   *2020 - 2022*

Head, Internship and Placement Council   *MEC*

Facilitated visits and interactions of students with industries for jobs and internships.   *2017 - 2018*

Founder and Head, OutReach Club   *MEC*

Designed and led students in community outreach programs like VIGNAN, MyParliament, and blood donation drives.   *2015 - 2018*

Director, Cinematographer and Editor, Weaving Deciphered.   *Media Project, MEC*

A process documentary on power loom weaving.   *Spring 2015*

Research Mentoring

Shasha Jiang

Master Thesis (EPFL)   *2022 - 2023*