

Ravinithesh

DIGITAL HUMANITIES PH.D · EPFL

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Education

École Polytechnique Fédérale de Lausanne (EPFL)

Lausanne, Switzerland

PH.D., DIGITAL HUMANITIES

2022 - Present

- Advisor: Prof. Daniel Gatica-Perez

École Polytechnique Fédérale de Lausanne

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

Social Computing Group, Idiap Research Institute

Martigny, Switzerland

RESEARCH ASSISTANT

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

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, RICH DATA

Sep. 2021 - Feb. 2022

- Part of the Service Numérique de la Recherche (Digital Research) 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- Developed a *pipeline* for post-processing correction of OCRized historical documents using the data itself with minimal external data.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.

Publications

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

IEEE Symposium Series on Computational Intelligence

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

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

Talks & Presentations

Artwork patterns in a children's drawings

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

Troyes, France

July, 2022

Academic Projects

TikTok and the US election

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.

Computational Social Media

Spring 2021

Hollywood and the Pentagon

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.

History and the Digital

Spring 2021

Tonality in non-western music

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.

Digital Musicology

Spring 2021

Face of the War

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?

Cultural Data Sculpting

Spring 2021

Famous World

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

Data Visualization

Spring 2021

Terzani Online Museum

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

Foundation of Digital Humanities

Fall 2020

Training

Technology Entrepreneurship Program

INDIAN SCHOOL OF BUSINESS

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

Research & Product development

May 2016 – May 2018

Predictions of digressions

MAHINDRA ÉCOLE CENTRALE - PROF. ARYA KUMAR BHATTACHARYA

• Developed a system that can predict adverse digressions in a noisy industrial process using Extreme Learning Machines.

Research Assistant

May 2017 – June 2017

Load Prediction in Smart Grids of Ontario, Canada

MAHINDRA ÉCOLE CENTRALE & TECH MAHINDRA

• Developed solutions to predict i) load on a transformer and ii) the expected number of Electric Vehicles using Artificial Neural Nets.

Research Assistant

Aug 2015 – Feb 2016

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

Received merit scholarship for three consecutive years at Mahindra École Centrale.

MEC
2014 - 2017

Co-Curricular Activities

Class Delegate, Digital Humanities Section

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

EPFL
2020 - 2022

Head, Internship and Placement Council

Facilitated visits and interactions of students with industries for jobs and internships.

MEC
2017 - 2018

Founder and Head, OutReach Club

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

MEC
2015 - 2018

Director, Cinematographer and Editor, Weaving Deciphered.

A process documentary on power loom weaving.

Media Project, MEC
Spring 2015

Code Repository

- The repositories for the academic projects can be found [here](#) and for the internship at INHA can be found [here](#)