Ravinithesh

Digital Humanities Ph.D Candidate · EPFL

ravinithesh.annapureddy@epfl.ch | ravinitheshreddy.github.io | ravinitheshreddy | ravinithesh | Ravinithesh

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

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- Developed a *pipeline* for post-processing correction of OCRized historical documents using the data itself with minimal external data.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

IFAC International Conference on ACODS

Ravinithesh A, A.K. Bhattacharya and G. Rishita

2018

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

IEEE India Council International Conference

Aditya Gupta, Manikumar PLN, **Ravinithesh A**, Arya K. Bhattacharya

2017

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

IUPAP Conference on Computational Physics

Shashank R, **Ravinithesh A**, K Sreekar, Kausik B, Murtaza B and Dibakar R C

2016

Talks & Presentations

Artwork patterns in a children's drawings

Troyes, France

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

July, 2022

Academic Projects

TikTok and the US election

Computational Social Media

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.

Spring 2021

Hollywood and the Pentagon

History and the Digital

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.

Spring 2021

Tonality in non-western music

Digital Musicology

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.

Spring 2021

Face of the War

Cultural Data Sculpting

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?

Spring 2021

Famous World

Data Visualization

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

Spring 2021

Terzani Online Museum

Foundation of Digital Humanities

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

Fall 2020

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.

Predictions of digressions

Research Assistant

Mahindra École Centrale - Prof. Arya Kumar Bhattacharya

May 2017 – June 2017

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

Load Prediction in Smart Grids of Ontario, Canada *Research Assistant*

Mahindra École Centrale & Tech Mahindra *Aug 2015 – Feb 2016*

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

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

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*

Code Repository

- The repositories for the academic projects can be found *here* and for the internship at INHA can be found *here*