PANKAJ CHEJARA

Data Researcher

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EXPERIENCE

Data Researcher

Tallinn University

📅 Sep 2019 – Ongoing 📍 Tallinn, Estonia

- Developed hardware prototypes using Raspberry Pi to collect and process audio data from Estonian classrooms
- Developed dashboards utilizing features from audio and log data for teachers' use
- Investigated generalizability of machine learning modes to detect high/low collaboration, across different Estonian schools, with Harvard University, USA
- Applied statistical methods (e.g., correlation, factor analysis) to identify collaboration indicators from audio, video, and log data
- Developed interactive data-intensive applications from different disciplines (e.g., UX, Climate sustainability, Education)

PROJECTS

Monitoring Student's Collaboration Quality in Classrooms

📅 Website

- Developed user interface and back-end for the application
- Integrated real-time voice activity detection and Google Speech-to-Text translation
- Feature extraction from video data (e.g., head-orientation, facial action units) using py-feat API.
- Developed collaboration prediction models using Random Forest Algorithm with audio, video, and log data (balanced accuracy = 82%)

Stakeholders-based Scenario Design Platform for Sustainable and Economic Energy Transition

📅 Website

- Pre-Processing data from different models (e.g., Enbios) and merged them to populate the application's db
- Handled the entire development of the project using Python's Django framework
- Integration of Map-based visualisation for Portugal region with different energy generation capabilities

Performance Analysis when Different Time Windows for Data Segmentation

📅 Link

- Feature extraction from audio and log data using different time granularity (e.g., 30S, 60S, 90S, 120S, 180S, 240S)
- Training collaboration prediction model using Random Forest algorithm
- Generalizability evaluation of developed models (60s time window outperformed other time windows).

LIFE PHILOSOPHY

"Nothing worthwhile comes in this life without going through adversity"

MOST PROUD OF

🏆 **Going out of my confront zone**
which resulted in a research stay at Harvard University and a recognition of **Best EdTech Demo** Award in the most prestigious conference in Education data mining in the USA.

💓 **Perseverance**
I showed despite several rejections of getting a position abroad.

STRENGTHS

Hard-working   Humility   Quick learner
"Yes-we-can" attitude   Analytical thinking
Scientific writing   Perseverance
Efficient at get-things-done

Python   Data Analytics   Machine Learning
Data analytics   Natural Language Processing
Statistics

EDUCATION

Masters in Computer Engineering
MNIT, India
📅 2010 – 2012

Masters in Computer Applications
Rajasthan Technical University, India
📅 2007 – 2010

Bachelor in Mathematics
Rajasthan University, India
📅 2004 – 2007

LANGUAGES

Hindi
English
Estonian