

UTPALRAJ KEMPRAI

Work Experience

August 2025 to Present	Associate Real World Programmer	GSK
May 2024 to July 2024	Data and AI Intern	Accenture

Education

Aug 2023 to May 2025	M.Sc Data Science	Chennai Mathematical Institute
Dec 2020 to May 2023	Bachelor of Mathematics (Hons.)	Indian Statistical Institute, Bangalore

Relevant Courses

Mathematics

Single and Multivariate Calculus, Linear Algebra, Probability Theory, Stochastic Processes, Optimization

Statistics

Descriptive Statistics, Statistical Inference, Linear Models, Time Series Analysis, Predictive Analytics, Probability and Statistics using R, Econometrics

Computer Science

Programming and Data Structures in Python, Design and Analysis of Algorithms, Data Mining and ML, Deep Learning, NLP, Theoretical Foundations of ML, Applied ML

Projects

Oct 2024 to Dec 2024	Gender, Age, Ethnicity Classification using multi-task CNN Streamlit App link Project Report
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- Developed a multitask CNN model to predict gender, age group, and ethnicity from facial images.
- Utilized the [FairFace dataset](#) for training, ensuring balanced and fair representations across demographics.
- Implemented Haar cascades for face detection and cropping in the preprocessing pipeline.
- Deployed the application using Streamlit, enabling user-friendly interaction for image upload and real-time predictions.

Sep 2023 to Oct 2023	Forest Fire Detection using Support Vector Machine (SVM) for Datasets with Features more than Sample Data Streamlit App link
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- Curated a dataset of forest fire and forest images from [Mendeley data](#) and [images.cv](#)
- Augmented the training data using Gaussian and median blur techniques to improve model robustness.
- Preprocessed images by resizing to optimize training efficiency and reduce dimensionality.
- Developed an SVM model to classify forest fire images from regular forest scenes.
- Deployed the model as an interactive Streamlit application for real-time image classification.

Sep 2021 to
Dec 2021

Study on Availability, Accessibility, and Inequalities of Water, Sanitation, and Hygiene (WASH) Services in Indian Metro Cities under Prof. Rituparna Sen, ISI Bangalore | [Project Report](#)

- Analyzed WASH services across Mumbai, Delhi, Chennai, Bangalore, Kolkata, and Hyderabad using IHDS data.
- Examined improvements in WASH services from 2004-05 to 2011-12, highlighting disparities driven by literacy, housing, and economic factors.
- Applied statistical methods for data analysis and presented findings in a comprehensive report.

»»» Publication

➤ **Performance Analysis of Support Vector Machine (SVM) on Challenging Datasets for Forest Fire Detection.**

Authors: Ankan Kar, Nirjhar Nath, Utpalraj Kemprai, Aman

[International Journal of Communications, Network and System Sciences](#), 17, 11-29.

»»» Technical & Programming Skills

- **Programming** : Python, R
- **Libraries & Frameworks** : NumPy, Pandas, Matplotlib, Seaborn, SciPy, Plotly, ggplot2, dplyr, tidyverse, Scikit-Learn, Keras, Tensorflow, PyTorch, NLTK
- **Software and Tools** : MS Excel, GitHub, PowerBI, SQL, \LaTeX , VSCode, RStudio, WSL

»»» Certifications

➤ **Finlatics Business Analyst Experience Program**

Issuing Organization: Finlatics | [View Certification](#) | [Letter of Recommendation](#)

➤ **Madhava Mathematics Competition 2022**

Issuing Organization: Dept of Mathematics, S.P. College, Pune and HBCSE, TIFR | [View Certification](#)

➤ **Madhava Mathematics Competition 2021**

Issuing Organization: Dept of Mathematics, S.P. College, Pune and HBCSE, TIFR | [View Certification](#)

➤ **Assam Mathematics Olympiad 2018**

Issuing Organization: Assam Academy of Mathematics | [View Certification](#)

➤ **Introduction to Julia (for programmers)**

Issuing Organization: Julia Academy | [View Certification](#)

»»» Achievements

- **ISI M.Stat Exam 2023** : AIR 32
- **AHSEC Exam 2020** : 9th Rank

»»» Languages

English, Hindi, Assamese, Dimasa (Native)

»»» Hobbies

Table Tennis, Reading, Coding, Puzzle solving