

# Chloy Costa



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## EDUCATION

### CHRIST (Deemed to be University)

Master of Computer Applications

Bangalore, Karnataka

June 2024 – Present

### Parvatibai Chowgule College of Arts and Science

Bachelor of Science in Physics, 78.27%

Margao, Goa

Sept 2021 – May 2024

## PROJECTS

### Student Attendance Monitoring System | Python, OpenCV, YOLOv8, FaceNet, DeepFace, MySQL

[GitHub](#)

- Engineered a real-time attendance monitoring and emotion tracking system using computer vision to automatically detect, recognize, and track students in a classroom with high accuracy.
- Integrated DeepFace for emotion analysis to gauge student engagement and logged attendance data automatically into a MySQL database via SQLAlchemy.
- Trained the model using Transfer learning via the tensorflow Resnet pretrained model
- We trained the model using YOLOv8 on around 20 student from our same classroom

### Photometric Redshift Estimation | Python, Scikit-Learn, Pandas, XGBoost, Astropy

[GitHub](#)

- Architected a hybrid pipeline combining clustering (K-Means, GMM) with a stacked ensemble of boosting models (XGBoost, NGBost) to estimate galactic redshifts.
- Implemented a multi-method outlier detection strategy (Isolation Forest, LOF, Z-score) and engineered astronomical features to enhance data quality.
- Achieved high predictive accuracy with an  $R^2$  score of 0.84 and an RMSE of 0.21, demonstrating the model's robustness.

## WORKSHOPS

### Astrophysics & Cosmology Workshop | IISc Bangalore, Ethical Edufabrica & Pravega

2025

- Gained hands-on experience in Optical Astrophysics, covering photometric redshift estimation, spectroscopy, and data analysis using IRAF.
- Explored Radio Astrophysics techniques, including data reduction and processing with CASA (Common Astronomy Software Applications).
- Studied X-ray Astrophysics concepts such as pulsars and X-ray binaries, with an introduction to data analysis using Heasoft.
- Also delved into the core theoretical aspects of Astronomy.

## CERTIFICATIONS

### Introduction to Relational Databases in SQL | DataCamp

July 2025

### Intermediate SQL | DataCamp

June 2025

## LEADERSHIP AND EXTRACURRICULARS

Selected as a member of *Advitiya Netrutva*, the student council of the college at Parvatibai Chowgule College of Arts. Successfully organized state-level events, including *Tatastu*, the state level college event, and led the *Battle of Bands* event to completion.

Served as the President of the Physics Club at *Parvatibai Chowgule College of Arts and Science*. Led and organized key events, including overnight sky observations, *Singularity* the biggest physics event organized by the department which included projects, games and competitions and workshops to foster student engagement.

Served as the ACC music head for the science deanery at Christ university for the academic year 2024-2025 and lead the choir and music

Active member of the Christ University Central Campus Choir (2024-Present), performing at major university events including the grand Christmas concert, Magnificat.

## TECHNICAL SKILLS

**Programming Languages:** Python, SQL, JavaScript, C, R, Bash, Fortran

**Data Science & ML:** Scikit-learn, Pandas, NumPy, Matplotlib, OpenCV, TensorFlow, PyTorch, XGBoost, Astropy

**Web & Mobile Dev:** React, Nextjs, Node.js, Express.js, Streamlit, HTML5, CSS3, Tailwind CSS

**Databases:** PostgreSQL, MySQL, MongoDB

**OS & Developer Tools:** Linux (Fedora), Git, VS Code, NPM