

# TANMAY AMBADKAR

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## EDUCATION

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**M.S, Computer Science and Engineering**, The Pennsylvania State University Expected May 2024  
GPA: 3.9

**B.Tech, Computer Science and Engineering**, IIIT Vadodara July 2022  
CPI: 9.4

## EXPERIENCE

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**Research and Digitization Automation Intern** January 2022 - July 2022  
Siemens Technology and Services


- Detecting anomalies in data using AutoEncoders and using explainable AI to identify which features contribute to the anomalies. Developed a plug-and-play library with multiple layers of abstraction to protect intellectual property.
- Adding models and modifying workflows to a library for realising time-series end-to-end workflows for training and inference, with 0.98  $r^2$  score.
- Explored data and created initial time-series forecasting models using CNNs for Starbucks data, to forecast into the future with only 10000 training samples.

**Research and Digitization Automation Intern** May 2021 - July 2021  
Siemens Technology and Services

- Worked on the Industrial Predictive Analytics Engine, Integrated workflow creation and monitoring tools which improved the existing architecture and maximised efficiency by running workflows in parallel, decreasing execution time by 30% .
- Maintaining and upgrading a library for realizing model training workflows for time-series datasets.

## PUBLICATIONS

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**Deep reinforcement learning approach to predict head movement in 360° videos** | 

- Authors: **Tanmay Ambadkar**, Prमित Mazumdar
- Presented the work at the **Electronic Imaging 2022 conference**



**Discrete Sequencing for Demand Forecasting: A novel data sampling technique for time series forecasting**

- Authors: Nisha Menon\*, Shantanu Saboo\*, **Tanmay Ambadkar\***, Umesh Uppili
- Accepted in the International conference on Intelligent Data Science Technologies and Applications (**IDSTA 2022**)

## PROJECTS

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**Deep Learning Research projects**

- **GenerativeImage2Text** | : Added a modified training loop and trained model on a smaller dataset with a different loss function to achieve similar results as original paper.
- **ImageColorNet** | : Proposed a Novel Deep Residual Network for colorizing black and white images. The network is able to outperform the current state-of-the-art in visual assessment metrics. Submitted to IEEE Statistical signal processing workshop.
- Working on a Paragraph Boundary Detection System using Transformers and Convolutional Neural Networks. Achieved 93% accuracy on completely unseen data.

**Live Development projects**

- Pioneered the first institute level **Capture The Flag** competition by designing 10 levels of increasing difficulty and making a unique scoring and login system using Django for over 200 participants

- Led the **Certificate Generation project** team for generating E-certificates for all IIITV events, which will impact 1000 students every year. Coded the backend of the website using Django.
- Devised a **rank list for the Google Cloud program** (Currently frozen) using Django by continuously scraping cloud profiles of over 200 students, which motivated them to complete all tasks

## LEADERSHIP & EXTRA-CURRICULAR ACTIVITIES

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### President Technical Committee & Cerebro IIITV

- As a head of Cerebro 2021, I delegated tasks to a team of 70, achieving a 400% increase in participation and generated sponsorship worth Rs. 50000
- Planned and organised Hackathons, workshops, competitions for over 200 student participants for their learning and global level contests.

### Teaching Assistantships

- Currently working as a Teaching Assistant at Pennsylvania State University for CMPSC211 - Object Oriented Programming. I am working with a batch of 300 students
- Served as teaching assistant at IIIT Vadodara for CS162 - Introduction to Data Structures Laboratory. I worked with a batch of 75 students.

## SKILLS

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<b>Programming Languages</b>	Python, Java, Javascript, C, HTML, CSS
<b>Frameworks &amp; Libraries</b>	PyTorch, TensorFlow, Sklearn, Pandas, Django, Flask
<b>Soft Skills</b>	Communication, Planning, Leadership
<b>Languages</b>	English (TOEFL: 108), Hindi, Marathi