

I am a graduate student with research focus in machine learning. My aim is to develop general purpose statistical models for knowledge representation and learning. I currently work on developing methods for reducing catastrophic forgetting in unsupervised, continual learning models.

## EDUCATION

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| <b>Rochester Institute of Technology</b><br>Ph.D., Computing and information Science   | Rochester, NY<br>2021 - expected 2026 |
| <ul style="list-style-type: none"><li>– Continual Learning and biologically inspired machine learning</li><li>– Advisor: Prof. Travis Desell, Prof. Alexander Ororbia</li></ul>      |                                       |
| <b>Rochester Institute of Technology</b><br>M.S., Computer Science, GPA: 3.5/4.0   | Rochester, NY<br>2018–2021            |
| <ul style="list-style-type: none"><li>– Thesis: “Reducing Catastrophic Forgetting in Self-Organizing Maps”</li><li>– Advisor: Prof. Alexander Ororbia, Prof. Travis Desell</li></ul> |                                       |
| <b>University of Mumbai</b><br>B.E., Computer Engineering, GPA: 7.37/10.00   | Mumbai, India<br>2013–2017            |
| <ul style="list-style-type: none"><li>– Project: “Compression of Deep Neural Networks”</li><li>– Advisor: Prof. Avinash Shrivastava</li></ul>  |                                       |

## PUBLICATIONS

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1. Under review: **Hitesh Vaidya**, Travis Desell and Alexander Ororbia. Continually Learning Self Organizing Maps. ICML 2022
2. **Hitesh Vaidya**, Travis Desell\* and Alexander Ororbia\*. Reducing Catastrophic Forgetting in Self Organizing Maps with Internally-Induced Generative Replay (Student Abstract). *The 36th AAAI Conference on Artificial Intelligence (AAAI 2022)*. Vancouver, British Columbia, Canada. February 22 - March 1, 2022. [pdf]
3. Roady, R., Hayes, T.L., **Vaidya, H.**, and Kanan, C. (2020). Stream-51: Streaming Classification and Novelty Detection from Videos. *2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 925-934. [pdf]

## RESEARCH EXPERIENCE

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| <b>Rochester Institute of Technology</b><br>Graduate Research Assistant, Prof. Carlos Castellanos   | Rochester, NY<br>May 2021 - August 2021   |
| <ul style="list-style-type: none"><li>– Evaluation of beauty score of bacteria based on their growth pattern</li><li>– Analysis of bacteria growth using their temporally ordered image dataset</li></ul> |   |
| <b>Rochester Institute of Technology</b><br>Graduate Research Assistant, Software Design and Productivity Laboratory  | Rochester, NY<br>November 2020 - May 2021 |
| <ul style="list-style-type: none"><li>– Detect trace links and plagiarism in software programs using Metric Learning based dual-encoder models</li></ul>  |   |

- Eliminate vulnerabilities by analyzing code representations obtained using Bag-of-Words and Bi-LSTM

## Rochester Institute of Technology

Rochester, NY

Graduate Research Assistant, Prof. Roger Chen

September 2018 - December 2018

- Predict optimal locations for cab placement to reduce customer waiting time by performing density estimation
- Discover correlation between consumer types and their travel pattern using Linear Regression

## Indian Institute of Technology, Bombay

Mumbai, India

Research Intern, Prof. Ganesh Ramakrishnan

August 2017 - May 2018

- Introduce dataset for English to Hindi Neural Machine Translation containing 1.7 million parallel sentences
- Consolidate manuscript data and perform Optical Character Recognition on Indic languages

## TEACHING EXPERIENCE

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- CSCI 736: Neural Networks and Machine Learning Spring 2020  
*Teaching Assistant*  
Designed new home works and projects for 35 graduate students. Further, graded them and guided students in development of their projects.
- CSCI 635: Introduction to Machine Learning Fall 2020  
*Teaching Assistant*  
Conducted office hours for this graduate course to coach them on topics taught in this course. Additionally, evaluated students' home works and projects.

## SKILLS

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- **Programming:** Python, Java, C++, SQL, HTML5, CSS3, Latex
- **Software/Frameworks:** Tensorflow, PyTorch, Keras, Pandas, Scikit-learn, NLTK, Docker
- **Cloud Services:** Google Colab, Microsoft Azure

## PROFESSIONAL ACTIVITIES

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- Peer Advisor Leader (PAL) at RIT - Helping new incoming students with their onboarding process
- Association for the Advancement of Artificial Intelligence (AAAI) - Member
- International Conference on Machine Learning (ICML) 2022 - Reviewer

## REFERENCES

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- **Prof. Travis Desell:** Associate Professor, Rochester Institute of Technology, New York. Email: [tjdvse@rit.edu](mailto:tjdvse@rit.edu)
- **Prof. Alexander G. Ororbia II:** Assistant Professor, Rochester Institute of Technology, New York. Email: [ago@cs.rit.edu](mailto:ago@cs.rit.edu)