

EDUCATION

North Carolina State University

Ph.D. Computer Science - GPA: 3.9/4.0

Raleigh, NC

Aug. 2019 – Present

PES University

B.E. Computer Science - GPA: 3.2/4.0

Bangalore, India

Aug. 2015 – May 2019

EMPLOYMENT

North Carolina State University

Graduate Research Assistant

Raleigh, NC

Jan. 2020 – Present

- **Research:** Co-authored 3 first-author papers and 2 other papers.

Graduate Teaching Assistant

Aug. 2019 – Jan. 2020

- **Office hours:** Held office hours for 54 undergraduate students.
- **Lecture:** Delivered lectures on object-oriented programming and RAII in C++.

Indian Institute of Astrophysics

Research Intern

Bangalore, India

Jul. 2018 - Mar. 2019

- **Image denoising:** Worked on image restoration of globular clusters using convolutional neural networks.
- **Research:** Proposed novel adaptive learning rate scheme for deep neural networks.

PUBLICATIONS

Yedida, R., & Menzies, T. (2021). A Replication of ‘A Systematic Study of the Class Imbalance Problem in Convolutional Neural Networks’. In *Proceedings of the 29th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE '21)*, August 23–28, 2021, Athens, Greece.

Yedida, R., & Menzies, T. (2021). A Replication of ‘On the Number of Linear Regions of Deep Neural Networks’. In *Proceedings of the 29th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE '21)*, August 23–28, 2021, Athens, Greece.

Yedida, R., & Saha, S. (2021). Beginning with Machine Learning: A Comprehensive Primer. *The European Physical Journal Special Topics*: 1-82.

Agrawal, A., Yang, X., Agrawal, R., **Yedida, R.**, Shen, X., & Menzies, T. (2021). Simpler Hyperparameter Optimization for Software Analytics: Why, How, When?. *IEEE Transactions on Software Engineering*, doi: 10.1109/TSE.2021.3073242

Yang, X., Chen, J., **Yedida, R.**, Yu, Z., & Menzies, T. (2021). Learning to recognize actionable static code warnings (is intrinsically easy). *Empirical Software Engineering*, 26(3), 1-24.

Yedida, R., & Menzies, T. (2021). On the Value of Oversampling for Deep Learning in Software Defect Prediction. *IEEE Transactions on Software Engineering*, doi: 10.1109/TSE.2021.3079841

Yedida, R., Krishna, R., Kalia, A., Menzies, T., Xiao, J., & Vukovic, M. (2021). Lessons learned from hyper-parameter tuning for microservice candidate identification. *arXiv preprint arXiv:2106.06652*.

Yedida, R., Yang, X., & Menzies, T. (2021). When SIMPLE is better than complex: A case study on deep learning for predicting Bugzilla issue close time. *arXiv preprint arXiv:2101.06319*.

Saha, S., Nagaraj, N., Mathur, A., **Yedida, R.**, & Sneha, H. R. (2020). Evolution of novel activation functions in neural network training for astronomy data: habitability classification of exoplanets. *The European Physical Journal Special Topics*, 229(16), 2629-2738.

- Yedida, R.**, Abrar, S. M., Melo-Filho, C., Muratov, E., Chirkova, R., & Tropsha, A. (2020). Text Mining to Identify and Extract Novel Disease Treatments From Unstructured Datasets. *arXiv preprint arXiv:2011.07959*.
- Yedida, R.**, Saha, S., & Prashanth, T. (2020). LipschitzLR: Using theoretically computed adaptive learning rates for fast convergence. *Applied Intelligence*, 1-19.
- Sridhar, S., Saha, S., Shaikh, A., **Yedida, R.**, & Saha, S. (2020, July). Parsimonious Computing: A Minority Training Regime for Effective Prediction in Large Microarray Expression Data Sets. In *2020 International Joint Conference on Neural Networks (IJCNN)* (pp. 1-8). *IEEE*.
- Khaidem, L., **Yedida, R.**, & Theophilus, A. J. (2019, November). Optimizing Inter-nationality of Journals: A Classical Gradient Approach Revisited via Swarm Intelligence. In *International Conference on Modeling, Machine Learning and Astronomy* (pp. 3-14). *Springer, Singapore*.

PROJECTS

Reddit Timer <i>React, Styled Components, Sass</i>	Apr. 2021 – Present GitHub
Website to help marketing teams time posts on Reddit for maximum attention.	
SendToFuture <i>iOS, Swift</i>	Apr. 2021 – May 2021 GitHub
iOS app to “snooze” links for a few hours.	
Google Takeout Data Mining <i>Python, Keras</i>	Feb. 2021 – May 2021 GitHub
Data science project to use Google Takeout data to suggest products to advertise to a user from Amazon best sellers using BERT and achieved 0.4 F-1 score.	
Threaded Discussions Website <i>MongoDB, Node.js, React</i>	Feb. 2021 – Present GitHub
Companion website for video calls that allows for Reddit-style, threaded discussions.	
NearConnect <i>iOS, Swift</i>	Nov. 2020 – Mar. 2021 GitHub :: App Store
iOS app to connect with people nearby using multicast peer-to-peer connections.	
RAISE <i>Python, Keras</i>	Aug. 2020 – Present GitHub :: PyPI
Sole developer for a PEP8/PEP257-compliant, ML Python package used by our research lab. Downloaded 4,000 times.	
Personalized Chatbot <i>Python, Keras</i>	May 2019 GitHub
Fine-tuned a GPT-2 345M model on 730k messages from Telegram logs to create a personalized chatbot.	
Intelligent Tutoring System <i>Python</i>	Sep. 2018 – May 2019 GitHub
Implemented an Intelligent Tutoring System backend using Bayesian Knowledge Tracing and a novel question selection algorithm.	
Human Activity Data Project <i>Python, Keras</i>	Oct. 2018 – Nov. 2018 GitHub
Collected personal activity data for 9 months, grouped tasks into 21 categories. Analyzed most productive hours of the day and built a 2-layer predictive LSTM model, achieving 42% top-5 accuracy.	
JournalBear <i>JavaScript, Electron</i>	Jun. 2017 – Feb. 2019 GitHub :: Softpedia
Cross-platform journal application with AES-256 encryption. Rated 4/5 by Softpedia.	
Results Scraper <i>MongoDB, Express, React, Node.js</i>	Mar. 2018 – Aug. 2018 GitHub
Website for scraping university examination results and displaying charts and printable reports, with caching using a database.	

Video Sharing Website <i>MySQL, Express, React, Node.js, Sass, Elasticsearch</i> Simplified implementation of a video-sharing website with subscriptions and custom searching.	Oct. 2017 – Dec. 2017 GitHub
Xtreme Calculations <i>VB.NET, Python</i> Windows math software to solve scientific and mathematical problems, with over 30,000 downloads over multiple sites.	Apr. 2013 – Oct. 2017 Softpedia
Video Indexer <i>C++, Qt, CMUSphinx</i> Cross-platform desktop application to detect the time(s) a given keyword was spoken in a given video.	Jun. 2017 – Sep. 2017 GitHub
Web development projects <i>MongoDB, Express, React, Node.js, D3, Sass</i> Projects include URL shortener, rogue-like dungeon crawler game, voting application, Simon game, land surface temperature heatmap, and mapping meteorite impacts across the globe.	Jan. 2017 – Nov. 2017 GitHub

SKILLS

Languages: Python, JavaScript, C++, Swift, VB.NET

Frameworks: Flask, Keras, PyTorch, Node.js, React

Databases: SQL, MongoDB

TALKS

Complexity Classes and NP-Completeness, presented at PES University, Bangalore, 2017.

How to design a Flappy Bird game, presented at PES University, Bangalore, 2018.

Machine Learning, presented at PES University, Bangalore, 2018.

An Introduction to Data Analysis, presented at PES University, Bangalore, 2018.

SERVICE TO PROFESSION

Reviewer, IEEE Symposium Series on Computational Intelligence (SSCI) 2020

Technical Program Committee Member, International Conference on Modeling, Machine Learning, and Astronomy, 2019