

EDUCATION

North Carolina State University

Ph.D. Computer Science — Advisor: Dr. Tim Menzies

Raleigh, NC

Aug. 2019 – Exp. Dec. 2023

PES University

B.E. Computer Science - GPA: 7.9/10.0

Bangalore, India

Aug. 2015 – May 2019

EMPLOYMENT

Amazon

Software Dev Engineer Intern

New York, NY

May 2023 – Aug 2023

- Implemented profile locks for Prime Video on Echo Show devices.
- **Technology:** React Native, TypeScript

North Carolina State University

Graduate Teaching Assistant

Raleigh, NC

Aug 2022 – Apr 2023

- TA (with 3 others) for 119 students for a graduate Automated Software Engineering class.
- TA (with 4 others) for 243 students for a graduate Software Engineering class.

Graduate Research Assistant

Jan. 2020 – May 2022

- **Better, faster deep learning for SE:** Improved defect prediction by up to 123% (F-1 score), code smell detection by up to 30% (AUC)
- **Semi-supervised learning:** Achieved state-of-the-art results on static code warnings analysis using 10% labels.

Graduate Teaching Assistant

Aug. 2019 – Jan. 2020

- Held office hours for 54 undergraduate students and delivered lectures on C++.

Amazon

Software Dev Engineer Intern

Bellevue, WA

May 2022 – Jul 2022

- Developed a full-stack system to publish announcements in scorecards used by delivery service partners (DSPs).
- **Technology:** React/Redux, TypeScript, Redux Saga, DynamoDB, Java Spring

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 and demonstrated faster convergence by up to 100,000x.

PUBLICATIONS

1. Baldassarre, M. T., Ernst, N., Hermann, B., Menzies, T., & **Yedida, R.** (2023). (Re)use of Research Results (is Rampant). *Communications of the ACM*, 66(2), 75-81.
2. **Yedida, R.**, Kang, H. J., Tu, K., Lo, D., & Menzies, T. (2023). How to Find Actionable Static Analysis Warnings: A Case Study with FindBugs. *IEEE Transactions on Software Engineering*, (01), 1-17.
3. **Yedida, R.**, Krishna, R., Kalia, A., Menzies, T., Xiao, J., & Vukovic, M. (2023). An Expert System for Redesigning Software for Cloud Applications. *Expert Systems with Applications*.
4. **Yedida, R.**, Menzies, T. (2022). How to Improve Deep Learning for Software Analytics (a case study with code smell detection). In *2022 IEEE/ACM 19th International Conference on Mining Software Repositories (MSR)*. IEEE, 2022.
5. **Yedida, R.**, & Saha, S. (2021). Beginning with Machine Learning: A Comprehensive Primer. *The European Physical Journal Special Topics*: 1-82.

6. 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
7. 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.
8. **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
9. **Yedida, R.**, Krishna, R., Kalia, A., Menzies, T., Xiao, J., & Vukovic, M. (2021). Lessons learned from hyper-parameter tuning for microservice candidate identification. *Proceedings of the thirty-sixth IEEE/ACM International Conference on Automated Software Engineering (ASE)*.
10. 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.
11. **Yedida, R.**, Saha, S., & Prashanth, T. (2020). LipschitzLR: Using theoretically computed adaptive learning rates for fast convergence. *Applied Intelligence*, 1-19.
12. 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.
13. 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.

FUNDING

\$5,000, Google Cloud Academic Research Grant, 2022.

SERVICE TO PROFESSION

Reviewer, NeurIPS, 2023; Journal of Big Data, 2023; Automated Software Engineering (ASE), 2023; Empirical Software Engineering (EMSE), 2021; IEEE Symposium Series on Computational Intelligence (SSCI) 2020

PC Member, Automated Software Engineering (ASE) Artifact Evaluation Track, 2022; International Conference on Software Maintenance and Evolution (ICSME) Artifact Evaluation Track, 2021, 2022; International Conference on Modeling, Machine Learning, and Astronomy (MMLA), 2019

Student Volunteer, Automated Software Engineering (ASE) '21

HONORS

2022, [Google Cloud Champion Innovator](#)

RELEVANT PROJECTS

pysh <i>C++, TMLanguage</i>	May 2021 - Present GitHub
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Developed a superset of Python that allows running Shell code natively, with a VS Code syntax highlighting extension.

RAISE <i>Python, Keras</i>	Aug. 2020 – Present GitHub :: PyPI
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Sole developer for a PEP8/PEP257-compliant, ML Python package used by our research lab and others for replicable results. Downloaded 16k times.

Google/Meta Data Mining <i>Python, Keras</i>	Feb. 2021 – May 2021 GitHub
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Data science project to use Google Takeout and Meta user data to suggest products to advertise to a user from Amazon best sellers using DistilGPT-2 and achieved 0.6 F-1 score.

Personalized Chatbot

May 2019

Python, Keras

[GitHub](#)

Fine-tuned a GPT-2 345M model on 730k messages from Telegram logs to create a personalized chatbot.

Intelligent Tutoring System

Sep. 2018 – May 2019

Python

[GitHub](#)

Implemented an Intelligent Tutoring System backend using Bayesian Knowledge Tracing and a novel question selection algorithm.

Human Activity Data Project

Oct. 2018 – Nov. 2018

Python, Keras

[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.

SKILLS

Languages: Python, TypeScript, Java, C++

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

Databases: SQL, MongoDB, DynamoDB