

## EDUCATION

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### 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

Bangalore, India

Aug 2015 - May 2019

## EMPLOYMENT

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### 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

Software Dev Engineer Intern

May 2022 - Jul 2022

- Developed a full-stack system to publish announcements in socrecards used by delivery service partners (DSPs).

- **Technology:** React/Redux, TypeScript, Redux Saga, DyanmoDB, Java Spring

### 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 course.

- TA (with 4 others) for 243 students for a graduate Software Engineering course.

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% of the labels.

## PUBLICATIONS

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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

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

## SERVICE TO PROFESSION

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**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 AND AWARDS

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Google Cloud Champion Innovator, 2022

## RELEVANT PROJECTS

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<b>Programmable Resumes</b> <i>Python</i>	Aug 2023 - Present <a href="#">GitHub</a>
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Developed a specification and implementation for modular, customizable resumes with support for two popular LaTeX templates.

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

<b>RAISE</b> <i>Python, Keras</i>	Aug 2020 - Present <a href="#">GitHub</a> :: <a href="#">PyPI</a>
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Sole developer for a PEP8-compliant, ML Python package used by our research lab and others for replicable results. Downloaded 19k times.

<b>Google/Meta Data Mining</b> <i>Python, Keras</i>	Feb 2021 - May 2021 <a href="#">GitHub</a>
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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.

<b>Threaded Discussions Website</b> <i>MongoDB, Node.js, React</i>	Feb 2021 - Jun 2021 <a href="#">GitHub</a>
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Companion website for video calls that allows for Reddit-style, threaded discussions.

### **NearConnect**

*iOS, SwiftUI*

Nov 2020 - Mar 2021

[GitHub](#) :: [App Store](#)

iOS app to connect with people nearby using multicast peer-to-peer connections.

### **Personalized Chatbot**

*Python, Keras*

May 2019

[GitHub](#)

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

### **Intelligent Tutoring System**

*Python*

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**

*Python, Keras*

Oct 2018 - Nov 2018

[GitHub](#)

Collected personal activity data for 9 months, grouped tasks into 21 categories. Analyzed most productive hours of the day.

### **JournalBear**

*JavaScript, Electron*

Jan 2017 - Feb 2019

[GitHub](#) :: [Softpedia](#)

Cross-platform journal application with AES-256 encryption. Rated 4/5 by Softpedia.

### **Results Scraper**

*MongoDB, Express.js, React, Node.js*

Mar 2018 - Aug 2018

[GitHub](#)

Website for scraping university examination results and displaying charts and printable reports, with caching.

### **Video Sharing Website**

*MySQL, Express.js, React, Node.js, Sass, Elasticsearch*

Oct 2017 - Dec 2017

[GitHub](#)

Simplified implementation of a video-sharing website with subscriptions and custom searching.

### **Xtreme Calculations**

*VB.NET, Python*

Apr 2013 - Oct 2017

[Softpedia](#)

Windows math software to solve scientific and mathematical problems, with over 30k downloads across multiple sites.

### **Video Indexer**

*C++, Qt, Sphinx*

Jun 2017 - Sep 2017

[GitHub](#)

Cross-platform desktop application to detect the time(s) a given keyword was spoken in a video.

### **Web development projects**

*MongoDB, Express.js, React, Node.js, Sass, D3.js*

Jan 2017 - Nov 2017

[CodePen](#)

Projects include URL shortener, rogue-like dungeon crawler game, voting application, Simon game, land surface temperature heatmap, and mapping meteorite impacts across the globe.

## **SKILLS**

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**Languages:** Python, TypeScript, Java, C++

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

**Databases:** MySQL, MongoDB, DynamoDB