Rahul Yedida

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Education

North Carolina State University — Raleigh, NC
Ph.D. Computer Science – Advisor: Dr. Tim Menzies — *Aug 2019 - May 2024*

PES University — Bangalore, India
B.E. Computer Science — *Aug 2015 - May 2019*

Employment

Amazon — New York, NY
Software Dev Engineer Intern — *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 scorecards used by delivery service partners (DSPs).
- **Technology:** React/Redux, TypeScript, Redux Saga, DyanmoDB, Java Spring

North Carolina State University — Raleigh, NC
Graduate Teaching Assistant — *Aug 2023 - May 2024*

- TA (with 2 others) for 149 students for a graduate Automated Software Engineering course.
- TA (with 4 others) for 289 students for a graduate Software Engineering course.

Graduate Teaching Assistant — *Aug 2022 - May 2023*

- TA (with 3 others) for 97 students for a graduate Automated Software Engineering course.
- TA (with 4 others) for 233 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.

Recent Publications

See full list on Google Scholar.

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.**, & 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*

Funding

$5,000, Google Cloud Academic Research Grant, Feb 2022

Service to Profession

Co-Chair, Workshop on Replications and Negative Results (RENE) at ASE 2024

Reviewer, TMLR 2024; ICML 2024; Neural Processing Letters 2023, 2024; Neural Computing & Applications (NCAA), 2023; Artificial Intelligence Review 2023; ICLR 2024; 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, AI Foundation Models and Software Engineering (FORGE) at ICSE 2024; Automated Software Engineering (ASE) Artifact Evaluation Track, 2022; International Conference on Software Maintenance and Evolution (ICSME) Artifact Evaluation Track, 2021, 2022, 2023; International Conference on Modeling, Machine Learning, and Astronomy (MMLA), 2019

Student Volunteer, Automated Software Engineering (ASE) '21

Honors and Awards

Google Cloud Champion Innovator - Cloud AI/ML, Jul 2023

Google Cloud Research Innovators Mentor, Dec 2022

Google Cloud Champion Innovator, Oct 2022

Google Cloud Research Innovator, Feb 2022

Invited Talks

Feb 2024, "*Improving deep learning performance using theoretical ML*" at BITS Pilani, KK Birla Goa Campus, India

Relevant Projects

RAISE Aug 2020 - Present
Python, Keras *GitHub :: PyPI*

Sole developer for a PEP8-compliant, ML Python package used by our research lab and others for replicable results. Downloaded 24k times.

Google/Meta Data Mining Feb 2021 - May 2021
Python, Keras *GitHub*

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.

Novel Drug Repurposing Hypotheses Oct 2019 - Feb 2020
Python, PyTorch *GitHub*

Identified novel drug repurposing hypotheses using text mining of radio transcripts, and verified results using a knowledge graph.

Personalized Chatbot May 2019 - 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.

Skills

Languages: Python, TypeScript, Java, C++

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

Databases: MySQL, MongoDB, DynamoDB

Cloud: Google Compute Engine, RDS, S3, Google Cloud Storage, EC2