

# Rangeet Pan

Iowa State University

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## SUMMARY

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Rangeet Pan is a Ph.D. student at the Department of Computer Science at Iowa State University. His supervisor is **Dr. Hriday Rajan** from Iowa State University. He has started working with **Nachiappan (Nachi) Nagappan, Sumit Gulwani, Shuvendu Lahiri, and Vu Le** from Microsoft Research since his **summer internship at Microsoft Research** in 2020. His research interests are in the field of Software Engineering focusing on Deep Learning, Modularity, and Program Analysis.

His works are focused on understanding the characteristics of deep learning software and applying various programming techniques, e.g., enabling decomposition in deep learning-based models. His works are published at the top research venues, **ESEC/FSE and ICSE**. His work on decomposing deep neural networks into modules has been awarded the **ACM SIGSOFT Distinguished Paper** awards at ESEC/FSE, 2020. He has won the **2<sup>nd</sup> place at the ACM Student Research Competition** at ICSE, 2020. He has also been awarded the **Robert Stewart Early Research Recognition** from the Department of Computer Science at Iowa State University.

He served as Web Chair for SPLASH, 2020, and serving as Web Chair for SPLASH, 2021. He has reviewed several papers from the **IEEE Transactions on Software Engineering (TSE)** as an external reviewer.

## PROFESSIONAL EXPERIENCE

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**Iowa State University** – Graduate Research Assistant (Aug 18 – Present)  
Previously Graduate Teaching Assistant for COMS 319 and 309

**Microsoft Research** - Intern – Software Analysis and Intelligence Group (SAINTes) (May 20 - Aug 20)

**University of Houston** - Research Assistant – Measurement and Evaluation group. (Jan 17 - May 18)

**Infosys Limited** - Test Engineer (March 13 - July 16)

## EDUCATION

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**Iowa State University** – PhD (Aug 18 – Present)  
GPA: 3.84

## PUBLICATIONS

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1. Rangeet Pan, Vu Le, Nachiappan Nagappan, Sumit Gulwani, Shuvendu Lahiri, and Mike Kaufman. "Can Program Synthesis be Used to Learn Merge Conflict Resolutions? An Empirical Analysis.", **ICSE, 2021**.
2. Rangeet Pan and Hridesh Rajan. "On Decomposing a Deep Neural Network into Modules.", **ESEC/FSE, 2020 (ACM SIGSOFT Distinguished Paper Award)**.
3. Rangeet Pan. "Does Fixing Bug Increase Robustness in Deep Learning?.", **ICSE SRC, 2020 (2nd place at Student Research Competition)**.
4. Md Johirul Islam, Rangeet Pan, and Hridesh Rajan. "Repairing Deep Neural Networks: Fix Patterns and Challenges.", **ICSE, 2020**.
5. Rangeet Pan. "Static deep neural network analysis for robustness.", **ESEC/FSE SRC, 2019**.
6. Md Johirul Islam, Giang Nguyen, Rangeet Pan, and Hridesh Rajan. "A Comprehensive Study on Deep Learning Bug Characteristics.", **ESEC/FSE, 2019**.
7. Rangeet Pan, Md Johirul Islam, Shibbir Ahmed, and Hridesh Rajan. "Identifying Classes Susceptible to Adversarial Attacks.", arXiv preprint arXiv:1905.13284 (2019).
8. Md Johirul Islam, Hoan Anh Nguyen, Rangeet Pan, and Hridesh Rajan. "What Do Developers Ask About ML Libraries? A Large-scale Study Using Stack Overflow.", arXiv preprint arXiv:1906.11940 (2019).

## NEWS COVERAGE

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1. "Two papers receive ACM SIGSOFT Distinguished Paper Award", Iowa State News, Aug, 2020. (<https://www.cs.iastate.edu/two-papers-receive-acm-sigsoft-distinguished-paper-award>)
2. "Pan earns 2nd Place at the ACM Student Research Competition at the International Conference on Software Engineering (ICSE)", Iowa State News, July, 2020. (<https://www.cs.iastate.edu/pan-earns-2nd-place-acm-student-research-competition-international-conference-software-engineering>)
3. "Huang, Khoshmanesh, and Pan win Robert Stuart Early Research Recognition Award", Iowa State News, May, 2020. (<https://www.cs.iastate.edu/announcements/huang-khoshmanesh-and-pan-win-robert-stuart-early-research-recognition-award>)

4. "Open data set to increase efficiency of COVID-19 research", Iowa State Daily, Apr, 2020.  
(<https://tinyurl.com/yawbgaho>)
5. "Two papers accepted at ICSE 2020 Research Track", Iowa State News, Dec, 2019.  
(<https://www.cs.iastate.edu/two-papers-accepted-icse-2020-research-track>)
6. "CS Students Showcase Entrepreneurship and Innovation", Iowa State News, Sep, 2019.  
(<https://www.cs.iastate.edu/cs-students-showcase-entrepreneurship-and-innovation>)

## TEACHING EXPERIENCE

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COMS 309 - Software Development Practices:- Teaching Assistant

- Graded, mentored 40+ students from a class of 300+ student.

COMS 319 - Construction of User Interfaces:- Teaching Assistant

- Assignment creation, grading, lab setup, mentoring students.

## CONFERENCE TALKS

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"On Decomposing a Deep Neural Network into Modules.", ESEC/FSE, 2020, virtual.

"Does Fixing Bug Increase Robustness in Deep Learning?.", ICSE, 2020, virtual.

"Static deep neural network analysis for robustness.", ESEC/FSE, 2019, Tallinn, Estonia

"A Comprehensive Study on Deep Learning Bug Characteristics.", ESEC/FSE 2019, Tallinn, Estonia

## AWARDS AND RECOGNITION

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"ACM SIGSOFT Distinguished Paper Award" ESEC/FSE, 2020, virtual.

"2<sup>nd</sup> Place at Student Research Competition.", ICSE, 2020, virtual.

"Robert Stewart Early Research Recognition Award", Iowa State University, 2020.

"ACM Travel Award", ESEC/FSE, 2019, Tallinn, Estonia.

"Merit Scholarship", Phi Beta Delta, University of Houston, 2017.

## REFERENCES

Dr. Hridesh Rajan  
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Department of Computer Science  
Iowa State University, Ames, USA

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