

Aditya Senthilnathan

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Education

Present Aug 2023	Cornell University Ph.D. in Computer Science	Ithaca, USA
Jun 2022 Jul 2017	Indian Institute of Technology Delhi Dual Degree (B.Tech & M.Tech) in Computer Science and Engineering	New Delhi, India

Experience

Present Aug 2023	Cornell University Research Assistant Advisor: Prof. Rachee Singh Working on optical grooming for WANs to improve network characteristics	Ithaca, USA
Jul 2023 Jul 2022	Microsoft Research Research Fellow Advisor: Akash Lal , Pantazis Deligiannis , Aseem Rastogi Worked on tools for programming languages and using large language models for program verification	Bangalore, India
Dec 2021 Jul 2021	Columbia University Software Systems Lab Research Intern Advisor: Prof. Junfeng Yang Worked on identifying safe library updates through program analysis	New York, USA
Apr 2022 Jul 2021	Indian Institute of Technology Delhi Department of Computer Science Research Assistant Master's Thesis Advisor: Prof. Sorav Bansal Worked on LLVM-to-LLVM translation validation for undefined behaviors of LLVM IR	New Delhi, India
Jul 2020 May 2020	Stealth Mode Startup Frontend Developer Intern Designed and implemented complete frontend of the startup's iOS client using React Native and Redux	Cambridgeshire, UK

Publications

- Industrial-Strength Controlled Concurrency Testing for C# programs with Coyote** [🔗]
[EASST Best Software Science Paper]
Pantazis Deligiannis, [Aditya Senthilnathan](#), Fahad Nayyar, Chris Lovett and Akash Lal
29th International Conference on Tools and Algorithms for the Construction and Analysis of Systems [TACAS'23]
- UPGRADVISOR: Early Adopting Dependency Updates Using Hybrid Program Analysis and Hardware Tracing** [🔗]
Yaniv David, Xudong Sun, Raphael J. Sofaer, [Aditya Senthilnathan](#), Junfeng Yang, Zhiqiang Zuo, Guoqing Harry Xu, Jason Nieh and Ronghui Gu
16th USENIX Symposium on Operating Systems Design and Implementation, Carlsbad, CA, USA, July 2022 [OSDI'22]

Preprints

- Ranking LLM-Generated Loop Invariants for Program Verification** [🔗]
Saikat Chakraborty, Shuvendu K Lahiri, Sarah Fakhoury, Madanlal Musuvathi, Akash Lal, Aseem Rastogi, [Aditya Senthilnathan](#), Rahul Sharma, Nikhil Swamy [arXiv 2023]
- Finding Inductive Loop Invariants using Large Language Models** [🔗]
Adharsh Kamath, [Aditya Senthilnathan](#), Saikat Chakraborty, Pantazis Deligiannis, Shuvendu K Lahiri, Akash Lal, Aseem Rastogi, Subhajit Roy, Rahul Sharma [arXiv 2023]