

Kishor Jothimurugan

Levine 513, 3330 Walnut St, Philadelphia, PA – 19104 – USA

✉ kishor@seas.upenn.edu • 🌐 www.seas.upenn.edu/~kishor

Research Interests

- Applications of Formal Methods in Reinforcement Learning
- Verification of Neural Networks
- Static Analysis and Verification

Education

Academic Qualifications.....

- | | |
|---|--------------------------|
| University of Pennsylvania | Philadelphia, USA |
| ○ <i>PhD candidate in Computer and Information Science, Current GPA 4.0/4.0</i> | <i>2017–present</i> |
| Advised by Prof. Rajeev Alur | |
| Chennai Mathematical Institute | Chennai, India |
| ○ <i>B.Sc. (Hons) Mathematics and Computer Science , CGPA 9.77/10</i> | <i>2014–2017</i> |
| Ranked among top 3 students | |
| Arsha Vidya Mandir, CBSE | Chennai, India |
| ○ <i>High School, Overall percentage 96.8</i> | <i>2012–2014</i> |

Research

Publications.....

- **A Composable Specification Language for Reinforcement Learning Tasks**, Kishor Jothimurugan, Rajeev Alur, Osbert Bastani. *Neural Information Processing Systems (NeurIPS)*, 2019.

Drafts and Submissions.....

- **Space-efficient Query Evaluation over Probabilistic Event Streams**, Rajeev Alur, Yu Chen, Kishor Jothimurugan, Sanjeev Khanna. *In submission*.
- **State and Action Abstractions for Hierarchical Deep Reinforcement Learning**, Kishor Jothimurugan, Wenbo Zhang, Osbert Bastani, Rajeev Alur. *In submission*.
- **Techniques for Verifying Robustness of Neural Networks**, Kishor Jothimurugan. *WPE II Report*.

Internships and Summer Schools

- *SDE Intern at Amazon Web Services, Summer 2019.* Using machine learning to improve usability of taint analysis.
- *Marktoberdorf Summer School, Summer 2018.* Summer school on Engineering Secure and Dependable Software Systems.
- *Research Intern at LSV, ENS Cachan, Summer 2017.* Models for distributed reactive synthesis.

Teaching

- *Graduate TA (Spring 2019):* Principles of Embedded Systems (CIS 540).
- *Graduate TA (Fall 2018):* Automata, Computability and Complexity (CIS 262).
- *Undergraduate TA (Spring 2017):* Discrete Mathematics.
- *Online TA:* Design and Analysis of Algorithms (NPTEL MOOC).

Technical skills

- **Programming Languages:** C++ (fluent), Python (fluent), MATLAB (fluent), Java (fluent), Coq.
- **Tools:** \LaTeX , Git, Bash.
- **Frameworks:** Soot, Pytorch.

Academic Achievements

- Selected for summer student exchange program between CMI and ENS Paris (Awarded to top 3 students).
- Qualified for ACM ICPC India Regionals 2016 (Chennai and Coimbatore).
- State Rank 11 in Indian National Science Talent Search Examination 2014.

Languages

- **Fluent:** English, Hindi
- **Native:** Tamil