

# Divyesh Unadkat

## Education

**Ph.D. in Computer Science and Engineering (pursuing), 2015–Present**  
*Indian Institute of Technology Bombay, Mumbai.*  
CPI: 9.48/10

**B.E. in Computer Engineering, Dharmsinh Desai University, Nadiad. 2006–2010**  
Aggregate: 80.12 %

## Experience

**Researcher, Tata Research Development and Design Centre, Pune. Jun'10–Present**

**Intern, Tata Research Development and Design Centre, Pune. Dec'09–Apr'10**

## Technical Skills

**Programming:** C, C++, Java, Python, LaTeX

**Compilers:** LLVM, Clang, GNU tool chain (GCC, GDB, Make)

**Research Tools:** Z3, CBMC, Daikon, CPAchecker, InvGen

**Development Tools:** Emacs, Vim, Eclipse

**Version Control:** Git, CVS

## Publications

- [1] Supartik Chakraborty, Ashutosh Gupta, and Divyesh Unadkat. Diffy: Inductive reasoning of array programs using difference invariants. In *Proceedings of the 33rd International Conference on Computer-Aided Verification (CAV)*, 2021.
- [2] Mohammad Afzal, Supratik Chakraborty, Avriti Chauhan, Bharti Chimdyalwar, Priyanka Darke, Ashutosh Gupta, Shrawan Kumar, Charles Babu M, Divyesh Unadkat, and R. Venkatesh. Variabs : Verification by abstraction and test generation (competition contribution). In *Proceedings of the 26th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, pages 383–387, 2020.
- [3] Supartik Chakraborty, Ashutosh Gupta, and Divyesh Unadkat. Verifying array manipulating programs with full-program induction. In *Proceedings of the 26th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, pages 22–39, 2020.
- [4] Supratik Chakraborty, Ashutosh Gupta, and Divyesh Unadkat. Verifying array manipulating programs by tiling. In *Proceedings of the 24th International Static Analysis Symposium (SAS)*, pages 428–449, 2017.
- [5] Anand Yeolekar and Divyesh Unadkat. Assertion checking using dynamic inference. In *Proceedings of the 9th Haifa Verification Conference (HVC)*, pages 199–213, 2013.
- [6] Anand Yeolekar, Divyesh Unadkat, Vivek Agarwal, Shrawan Kumar, and R Venkatesh. Scaling model checking for test generation using dynamic inference. In *Proceedings of the 6th International Conference on Software Testing, Verification and Validation (ICST)*, pages 184–191, 2013.

## Presentations & Posters

**Verifying Array Manipulating Programs with Full-Program Induction:** 26th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), Online Presentation, March 2021.

**Verifying Array Manipulating Programs with Full-Program Induction:** Software Engineering Research India (SERI), (Online Presentation), **IIIT Hyderabad**, July 2020.

**Technical Poster: Verifying Array Programs with Full-Program Induction:** 4th Indian SAT+SMT School, **IIT Bombay**, December 2019

**Executive Poster: Verifying Array Programs by Tiling:** TCS Anvetion Workshop, **IITM Research Park, Chennai**, 2018

**Verifying Array Manipulating Programs by Tiling:** 24th International Static Analysis Symposium, SAS, **New York, USA**, August 2017.

**Competition Talk: Verifying Array Manipulating Programs by Tiling:** Research and Innovation Symposium in Computing, RISC, **IIT Bombay**, April 2017.

**Competition Talk: Towards Precise Software Verification:** Research and Innovation Symposium in Computing, RISC, **IIT Bombay**, April 2016.

**Assertion Checking using Dynamic Inference:** 9th Haifa Verification Conference, **Haifa, Israel**, November 2013.

## Awards

**Award:** Best Verification Tool

**Institution:** International Software Verification Competition (SV-COMP)

**Description:** VERIABS stood first in the ReachSafety category at SV-COMP 2020. As a part of its team, I designed and developed an induction-based verification techniques for Arrays sub-category, and implemented them in tools VAJRA and TILER as well as integrated them with VERIABS [2].

**Award:** Most Admired Sprint Thesis Talk

**Institution:** Indian Institute of Technology Bombay, Mumbai

**Description:** Runner-up, Senior Researcher Sprint Talks, RISC 2017, IIT Bombay.

**Award:** Best Speaker in Sprint Thesis Talk

**Institution:** Indian Institute of Technology Bombay, Mumbai

**Description:** Winner, Early Researcher Sprint Talks, RISC 2016, IIT Bombay.

**Award:** Eklavya Gold Medal

**Institution:** Dharmsinh Desai University, Nadiad

**Description:** Highest aggregate marks in first four semesters, CE 2008, DDU Nadiad.

## Contact

**Mobile:** (+91) 9284502604

**E-Mail:** divyesh@cse.iitb.ac.in

## Links

**Webpage:** <https://divyeshunadkat.github.io/>

**dblp:** <http://dblp.uni-trier.de/pers/hd/u/Unadkat:Divyesh>

**LinkedIn:** <https://www.linkedin.com/in/divyeshunadkat/>

**GitHub:** <https://github.com/divyeshunadkat/>