

# Kia Rahmani

PHD CANDIDATE

✉ rahmank@purdue.edu | 🏠 kiarahmani.github.io | 🌐 Kiarahmani | 🐦 @MDDBACA

## Education

### Purdue University

PHD IN COMPUTER SCIENCE

West Lafayette, IN, USA

2022 (expected)

- **Advisors:** Dr. Suresh Jagannathan and Dr. Benjamin Delaware
- **Thesis Topic:** Compilation, synthesis and testing of modern database-backed programs

### Purdue University

MS IN COMPUTER SCIENCE

West Lafayette, IN, USA

2020

- **Courses:** Advanced Topics In Programming Languages, Computer-aided Program Reasoning, Verifying Systems At Scale, Programming Languages, Operating Systems, Information Security, Formal Methods In Databases, Parallel Computing, Algorithm Design and Implementation, Distributed Database Systems, Simulation And Modeling Of Computer Systems

### Sharif University of Technology

BS IN COMPUTER SCIENCE

Tehran, Iran

2015

## Work Experience

### Microsoft Corporation

RESEARCH INTERN

Redmond, WA

June 2020 - Nov 2020

- **Supervisors:** Mohammad Raza and Sumit Gulwani
- **Internship Project:** Designing a new program synthesis technique backed by GPT-3

## Publications

### (OOPSLA'21) Multi-modal Program Inference: a Marriage of Pre-trained Language Models and Component-based Synthesis

- Kia Rahmani, Mohammad Raza, Sumit Gulwani, Vu Le, Daniel Morris, Arjun Radhakrishna, Gustavo Soares, Ashish Tiwari

### (PLDI'21) Repairing Serializability Bugs in Distributed Database Programs via Automated Schema Refactoring

- Kia Rahmani, Kartik Nagar, Benjamin Delaware and Suresh Jagannathan

### (OOPSLA'19) CLOTHO: Directed Test Generation for Weakly Consistent Database Systems

- Kia Rahmani, Kartik Nagar, Benjamin Delaware and Suresh Jagannathan

### (PaPoC'18) Fine-grained distributed consistency guarantees with effect orchestration

- Kia Rahmani, Gowtham Kaki and Suresh Jagannathan

## Skills

**Programming:** Python, Java, C#, Haskell, C, Systems/Networks

**Database:** Cassandra, MongoDB, CockroachDB, PostgreSQL, MySQL

**Misc:** Z3, Dafny, Git, AWS, Coq, Jepsen,  $\LaTeX$

## Teaching Experience

**Purdue University** Teaching Assistant: Principles and Practices of Compilers (2018), Programming Languages (2019)

**Sharif University** Teaching Assistant: Mathematical Logic (2014)

**Helli High School** Teacher: C programming Course (2010-2013)

## References

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**Suresh Jagannathan** Professor, Department of Computer Science, Purdue University  
Phone: 765-494-0971 - Email: suresh@cs.purdue.edu

**Benjamin Delaware** Assistant Professor, Department of Computer Science, Purdue University  
Email: bendy@purdue.edu

**Sumit Gulwani** Partner Research Manager, Microsoft Corporation  
Email: sumitg@microsoft.com

**Mohammad Raza** Senior Researcher, Microsoft Corporation  
Email: moraza@microsoft.com