Inzemamul Haque

Personal Data

Address:	House No. 81, Tirupati Nagar, Itarsi-461111, Madhya Pradesh, INDIA
Phone:	+91-8762730497
email:	haque.inzemamul@gmail.com
	inzemam@cse.iitk.ac.in
Age:	32 as on 01 Jan 2024
Marital Status:	Married

Education

Aug 2013 - Aug 2020:	**Ph.D. in Computer Science & Engineering,** Indian Institute of Science (IISc), Bangalore, India Thesis: Verification of a Generative Separation Kernel Supervisor: Prof. Deepak D'Souza
July 2009 - June 2013:	**B.Tech in Computer Engineering,** Aligarh Muslim University, Aligarh, India CGPA: 8.1/10
July 2007 - June 2009:	**Senior Secondary School Examination,** Aligarh Muslim University, Aligarh, India 67.5%
June 2007:	**All India Secondary School Examination (AISSE),** Kendriya Vidyalaya, CPE, Itarsi, India 75.6%

Research Interests

Application of Formal Methods and Artificial Intelligence to software systems and cyber-physical systems.

Research Experience

Jan 2023-Present:	**Post Doctoral Fellow** Indian Institute of Technology Kanpur, Kanpur, India Supervisor: Dr. Indranil Saha
Feb 2020 - Dec 2022:	**Research Associate** Indian Institute of Technology Kanpur, Kanpur, India Supervisor: Dr. Indranil Saha

Publications

1. **Inzemamul Haque**, Rupak Majumdar, Indranil Saha, Damien Zufferey, "Action Plan Synthesis for Robot Collaboration." [To be submitted to RSS 2025]

2. Thao Dang, Alexandre Donzé, **Inzemamul Haque**, Nikolaos Kekatos, Indranil Saha, "Imitation Learning of Combination of Controllers Satisfying Different Properties." [To be submitted to TECS]

* 3. Pankaj Siwan, **Inzemamul Haque**, Indranil Saha, "PhantomDrive: A Privacy-Focused Navigation System for Concealing User Movements." [To be submitted to IMWUT 2025]

4. Thao Dang, Alexandre Donzé, **Inzemamul Haque**, Nikolaos Kekatos, Indranil Saha, "Counter-Example Guided Imitation Learning of Feedback Controllers from Temporal Logic Specifications," In 62nd IEEE Conference on Decision and Control (CDC), 2023.

* 5. **Inzemamul Haque**, Deepak D'Souza, Habeeb P, Arnab Kundu, Ganesh Babu, "Verification of a Generative Separation Kernel," In 18th International Symposium on Automated Technology for Verification and Analysis (ATVA), 2020.
   Note: ATVA was a CORE A conference at the time of publishing.

The authors are ordered by their contribution in the publications marked with *.

Teaching Experience

Aug 2018 - Dec 2018:	Teaching Assistant, Automata Theory and Computability (E0-222) at IISc
Jan 2017 - Apr 2017:	Teaching Assistant, Formal Methods in Software Engineering (E0-272) at IISc
Aug 2016 - Dec 2016:	Teaching Assistant, Algorithms and Programming (UE-101) at IISc
Aug 2016 - Dec 2016:	Teaching Assistant, Automata Theory and Computability (E0-222) at IISc
Aug 2015 - Dec 2015:	Teaching Assistant, Automata Theory and Computability (E0-222) at IISc

Projects

Jan 2021 - Present:	**Action Planner for Multi-Robot Collaboration**
Mar 2020 - Present:	**Privacy-Preserving Navigation**
Feb 2020 - Present:	**Counter-Example Guided Imitation Learning of Feedback Controllers**
May 2014 - Jan 2020:	**Verification of a Generative Separation Kernel** This is the PhD thesis.
Jan 2014 - Apr 2014:	**Mechanism Design for Course Registration for M.E. Students** This was done as a part of Game Theory course in IISc.
Oct 2013 - Dec 2013:	**Implementation of a Slicing Algorithm for Java Programs using WALA Framework** This was done as a part of Program Analysis and Verification course in IISc.

Formal Methods Tools Used

Alloy	a first-order logic based modelling tool
Breach	a MATLAB toolbox for STL monitoring in CPS
Isabelle	a high-order logic theorem prover
Pex	a white-box testing tool
Rodin	a tool for proving Event-B refinement
SAL	a model checker
SPARK	a verifier for Ada-based programs
Spin	a model checker
VCC	a verifier for C-based programs
Z3	an SMT solver

Talks

Date	Title	Venue
18 Dec 2023	Counter-Example Guided Imitation Learning of Feedback Controllers	RHPL 2023, Hyderabad, India
14 Dec 2023	Counter-Example Guided Imitation Learning of Feedback Controllers	CDC 2023, Singapore
21 Oct 2020	Verification of a Generative Separation Kernel	ATVA 2020, Hanoi, Vietnam [Online]

Academic Visits

Sep-Oct 2022	To Verimag, France under Indo-French project funded by IFCPAR/CEFIPRA in collaboration with Prof. Thao Dang.
Aug 2022	To Max Planck Institute for Software Systems, Germany under collaboration with Prof. Rupak Majumdar.
2-11 Aug 2017	International Summer School, Marktoberdorf, Germany.

Scholarships

Jun 2013	CSIR-NET Dec 2012, All India Rank - 177
Mar 2013	GATE 2013, All India Rank - 827, GATE score - 632/1000

Languages

Urdu:	Mother tongue
English:	Fluent
Hindi:	Fluent
Arabic:	Intermediate Knowledge

References

- **Prof. Deepak D'Souza**,
  Department of Computer Science and Automation,
  Indian Institute of Science, Bangalore-560012, India.
  Email ID: deepakd@iisc.ac.in

- **Prof. Indranil Saha**,
  Department of Computer Science and Engineering,
  Indian Institute of Technology Kanpur, Kanpur-208016, India.
  Email ID: isaha@cse.iitk.ac.in

- **Prof. Thao Dang**,
  CNRS Research Director, Laboratory VERIMAG,
  Universite Grenoble Alpes, 38400,
  Saint Martin d'Heres, France.
  Email ID: thao.dang@univ-grenoble-alpes.fr

- **Dr. Alexandre Donzé**,
  Chief Technical Officer, Decyphir,
  Email ID: alex@decyphir.com