Nilesh Shah

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Education

IIT HYDERABAD
PhD
📅 Oct 2022 📍 Hyderabad, India
- PhD in CSE Department. Areas: Polyhedral Compilation, High-Performance Computing, Static Analysis, MLIR/LLVM (CGPA: 9.50/10)

IIT HYDERABAD
MTECH RA
📅 July 2022 📍 Hyderabad, India
- Research Assistant in Programming Language and compilers (CGPA: 9.80/10)

UIT RGPV, BHOPAL
BTech in Computer Science
📅 Aug 2018 📍 Bhopal, MP
Graduated with Distinction (CGPA: 8.08/10)

Honors

WINNER OF KESAV NORI RESEARCH EXCELLENCE AWARD
IIT HYDERABAD
Winner of Kesav Nori research excellence award for MTech, given to a graduating PG student (CSE dept)

PMRF FELLOW
Received the Prime Minister's Research Fellowship in March 2023

Coursework

GRADUATE
Compiler Engineering
Compiler Optimizations
Advanced Compiler Design
Deep Learning for Vision
Information Retrieval
GPU: H/W & S/W
Advanced Data Structures and Algorithms
Fraud Analytics Using Predictive and Social Network Techniques

Skills

PROGRAMMING
C/C++ • Python • Java • HTML/CSS • JavaScript • MATLAB • SQL

MISCELLANEOUS
Shell • LaTeX • Firebase • Git • LLVM, MLIR

Experience

ATTENDED RESEARCH CONFERENCE: HIPEAC 2024
Munich, Germany
📅 Jan 2024 📍 Munich, Germany
- Attended 19th International Conference on High Performance, Edge And Cloud Computing for various workshops, tutorials and talks.

RESEARCH EXCHANGE PROGRAM
Tokyo, Japan
📅 Dec 2022 📍 Tokyo, Japan
- Completed a 3-week "*Sakura Science Program*", a student research exchange program with the University of Tokyo.

RESEARCH ASSISTANT
Indian Institute of Technology, Hyderabad
📅 Aug 2019 – Aug 2022 📍 Hyderabad, Telangana
- Thesis title: *Some Approximations for Counting Non-Affine Polynomials in Cache Miss Calculation*

TEACHING ASSISTANT
Indian Institute of Technology, Hyderabad
📅 Aug 2019 – Aug 2022 📍 Hyderabad, Telangana
- Teaching assistant for Compiler Design, Compiler Engineering (LLVM), and Compiler Optimizations courses at IIT Hyderabad.

Publications

JOURNAL ARTICLES
BullsEye: Scalable and Accurate Approximation Framework for Cache Miss Calculation (Link)
📅 Published Nov 2022 📍 ACM-TACO 2022
- Authors: **Nilesh Shah**, Ashitabh Misra, Antoine Mine, Rakesh Venkat and Ramakrishna Upadrasta.

WORKSHOP
GeMS: Towards Generating Millions of SCoPs (Link)
📅 Published Jan 2023 📍 IMPACT 2023
- Authors: S. VenkataKeerthy, **Nilesh Shah**, Anilava Kundu, Shikhar Jain and Ramakrishna Upadrasta.

Recent Projects

GEMS: GENERATING MILLIONS OF SCOPS
IIT Hyderabad
📅 Jan 2023 – 📍 Hyderabad, India
Working on scalable code generation algorithms for affine programs.

BULLSEYE: A FAST CACHE MISS CALCULATOR
IIT Hyderabad
📅 Jan 2021 – March 2023 📍 Hyderabad, India
Developed a tool for scalable cache miss calculation for loop programs.

PREDICTING PRIOR CASES
IIT Hyderabad
📅 Aug 2020 – Dec 2020 📍 Hyderabad, India
Designed and implemented a model to identify relevant prior cases using the BERT's Next sentence prediction task.

CODE COMPLIANCE
IIT Hyderabad
📅 Oct 2019 – Dec 2019 📍 Hyderabad, India
Implemented a set of code compliance checkers, based on MISRA C/C++.