

Nasir U. Eisty

Assistant Professor
Computer Science Department
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Research Interests

- Software Engineering
- Software Quality
- Empirical Software Engineering
- Research Software Engineering
- Machine Learning

Experience

- **Assistant Professor - Tenure Track** (August 2021 to Present)
Department of Computer Science
Boise State University, Boise, ID, USA
- **Assistant Professor - Tenure Track** (September 2020 to July 2021)
Dept. of Computer Science & Software Engineering
California Polytechnic State University, San Luis Obispo, CA, USA
- **Postdoctoral Researcher** (June 2020 to August 2020)
Software Engineering lab, Dept. of Computer Science
University of Alabama, Tuscaloosa, AL, USA
- **Research Assistant** (August 2016 to May 2020)
Software Engineering lab, Dept. of Computer Science
University of Alabama, Tuscaloosa, AL, USA
- **Research Intern** (Summer 2019)
Los Alamos National Laboratory (LANL)
Los Alamos, NM, USA
- **Research Intern** (Summer 2017)
National Center for Supercomputing Applications (NCSA)
University of Illinois at Urbana-Champaign, IL, USA
- **Lecturer** (January 2015 to July 2016)
Department of Computer Science & Engineering.
Daffodil International University, Dhaka, Bangladesh

Education

- **Ph.D. in Computer Science (May 2020)**
Department of Computer Science
The University of Alabama, Tuscaloosa, AL, USA
- **MS in Computer Science (August 2018)**
Department of Computer Science
The University of Alabama, Tuscaloosa, AL, USA
- **B.Sc. in Computer Science & Engineering (December 2014)**
Department of Computer Science & Engineering
Rajshahi University of Engineering & Technology
Rajshahi, Bangladesh

Awards & Grants

- **Code Review in Research Software - The RSE Experience. Role: Co-PI**
 - ❑ Awarded grant \$250,000 from Sloan Foundation, Duration: 2023 - 2025
- **Research, Economic Development and Graduate Education (R-EDGE) at Cal Poly**
 - ❑ Awarded grant \$18,000 for the calendar year 2021
- **BSSw (Better Scientific Software) Fellowship 2020**
 - ❑ Awarded grant \$35,489 for the calendar year 2020
- **1st Prize in Graduate Poster Competition at the University of Alabama - 2019**
- **BSSw (Better Scientific Software) Fellowship Honorable Mention - 2019**
- **Travel Scholarship to Einstein Toolkit Meeting 2017**

Publications

1. Nasir U. Eisty, George K. Thiruvathukal, Jeffrey C. Carver “**A Survey of Software Metric Use in Research Software Development**” *14th eScience IEEE International Conference at Amsterdam, Netherlands, Oct 29 - Nov 1, 2018.*
2. Nasir U. Eisty, George K. Thiruvathukal, Jeffrey C. Carver “**Use of Software Process in Research Software development: A Survey**” *In Evaluation and Assessment in Software Engineering (EASE'19) Conference at Copenhagen, Denmark, April 15 - 17, 2019.*
3. Nasir U. Eisty, Danny Perez, Jeffrey C. Carver, J. David Moulton, Hai Ah Nam “**Testing Research Software: A Case Study**” *International Workshop on Software Engineering for Computational Science at Amsterdam, Netherlands, June 3-5, 2020.*
4. Nasir U. Eisty, Jeffrey C. Carver “**Peer Code Review in Research Software development**” *Empirical Software Engineering journal 27, 13 (2022)*
5. Shashank B. Lakshman, Nasir U. Eisty, “**Software Engineering Approaches for TinyML based IOT Embedded Vision: A Systematic Literature Review**” *4th International Workshop on Software Engineering Research & Practices for the Internet of Things (SERP4IoT 2022) Colocated with ICSE 2022, May 10, 2022*

6. Sharif Ahmed, Arif Ahmed, Nasir U. Eisty, “**Automatic Transformation of Natural to Unified Modeling Language: A Systematic Review**”, 20th IEEE/ACIS International Conference on Software Engineering Research, Management, and Applications (SERA 2022), May 25-27, Las Vegas, USA
7. Nasir U. Eisty, Jeffrey C. Carver “**Testing of Research Software: A Survey**” *Empirical Software Engineering Journal* 2022
8. Md Athikul Islam, Rizbanul Hasan, Nasir U. Eisty, “**A Systematic Literature Review on Optimizing Documentation Effort in Agile Software Development**” (Submitted, 2023)
9. Sharif Ahmed, Nasir U. Eisty, “**CRAide: A Code Review Comment Usefulness Predictor based on Semantics and Non-Verbal Cues**” (Submitted, 2023)

Invited Talks

- **Webinar: Testing and Code Review Practices in Research Software Development ([Link](#))**
The IDEAS Productivity Webinar Series of DOE Exascale Computing Project
September 9, 2020
- **Collaboration Opportunities with the 2020 BSSw Fellows**
2021 Exascale Computing Project Annual Meeting
April 13, 2021(Virtual)
- **Automatic Testing for Scientific Software Development ([Link](#))**
SIAM Conference on Computational Science and Engineering (CSE 21)
March 01, 2021 (Virtual)
- **Guest Lecture on Peer Code Review Practices**
Spring 2021, Ball State University, Muncie, IN, USA

Short Courses Taught

- **Tutorial: Contemporary Peer Code Review Practices**
2019 Exascale Computing Project Annual Meeting
January 17, 2019, at Houston, Texas
- **Tutorial: Contemporary Peer Code Review in Scientific Software Development ([Link](#))**
14th eScience IEEE International Conference
October 29, 2018, at Amsterdam, Netherlands
- **Summer Camp: Student Introduction to Engineering (Computer Science)**
SITE III Summer Camp
July 22 - 27, 2018 at The University of Alabama
- **Summer Camp: Student Introduction to Engineering (Computer Science)**
SITE II Summer Camp
July 15 - 20, 2018 at The University of Alabama
- **Summer Camp: Student Introduction to Engineering (Computer Science)**
SITE I Summer Camp
July 8 - 13, 2018 at The University of Alabama

- **Tutorial: Contemporary Peer Code Review, A Lightweight, Asynchronous Method for Ensuring High-Quality Code**
SEA Software Engineering Conference and Tutorial
April 4, 2018 at UCAR - Boulder, CO, USA

Workshops Organized

- **Software Engineering and Reuse in Modeling, Simulation, and Data Analytics for Science and Engineering**
The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC22) ([Link](#))
November, 2022
- **Software Engineering and Reuse in Modeling, Simulation, and Data Analytics for Science and Engineering ([Link](#))**
The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC21)
November 16, 2021 (Virtual)
- **Software Engineering and Reuse in Modeling, Simulation and Data Analytics for Science and Engineering ([Link](#))**
The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC20)
November 19, 2020 (Virtual)
- **2019 International Workshop on Software Engineering for Science ([Link](#))**
International Conference on Software Engineering (ICSE)
May 28, 2019 at Montreal, Canada
- **Understanding Challenges and Solutions for the Development of Modeling & Simulation Software in Defense and Medicine**
AlaSim International Conference
October 25, 2017 at Huntsville, AL, USA

Professional Services

- **Journal Reviewer**
Empirical Software Engineering (EMSE)
January 2023 - Present
- **Journal Reviewer**
IEEE Transactions of Software Engineering (TSE)
January 2022 - Present
- **Program Committee Member ([Link](#))**
2022 International Workshop on Software Engineering for eScience
October 11, Salt Lake City, Utah
- **Program Committee Member ([Link](#))**
Research Software Engineers in eScience (RSE-eScience-2022)
October 11, Salt Lake City, Utah
- **Program Committee Member ([Link](#))**
US-RSE Virtual Workshop 2022
September 14th & 16th, 2022

- **Program Committee Member ([Link](#))**
2022 International Workshop on Software Engineering for Computational Science
June 21-23, 2022 at London, UK
- **Journal Reviewer**
Software Quality Journal
August 2021 - Present
- **Journal Reviewer**
Nature Scientific Reports
January 2022 - Present
- **PhD Admission Committee Member**
PhD in Computing, Boise State University
August 2021 - Present
- **Undergraduate Success Committee Member**
Dept. of Computer Science, Boise State University
August 2021 - Present
- **Program Committee Member ([Link](#))**
2021 International Workshop on Software Engineering for Computational Science
June 16-18, 2021 at Krakow, Poland
- **Software Engineering Lecturer Search Committee Member**
Fall 2020 in CSSE Department at Cal Poly
- **Scholarship Award Committee Member**
Fall 2020 - Winter 2021 in CSSE Department at Cal Poly
- **Software Engineering Curriculum Committee Member**
Fall 2020 - Winter 2021 in CSSE Department at Cal Poly
- **Research Software Engineer (RSE) Search Committee Member**
University of Alabama Research Software Initiative

Blogs

- **Recommendations for Peer Code Review in Research Software Development ([Link](#))**
Published on Better Scientific Software Blog by DOE on Sep 14, 2022
- **Informational Interview Questions for Forming an RSE Group ([Link](#))**
Published on US-RSE blog on June 04, 2022
- **Use of Software Metrics in Research Software ([Link](#))**
Published on Better Scientific Software Blog by DOE on April 10, 2021
- **Testing Non-Deterministic Research Software ([Link](#))**
Published on Better Scientific Software Blog by DOE on October 13, 2020
- **Making Software a First-Class Citizen in Research ([Link](#))**
Software Sustainability Institute Blog on November 28, 2018

Notable Participations

- **Course Design Institute (CDI) by CTL at Boise State**
May 16 - 20, 2022 at Boise State University
- **US-RSE Community Building Workshop**
April 25 - 26, 2022 at Princeton University
- **Judge at 2022 Graduate Student Showcase Awards**
At Boise State University
- **University of Alabama System Scholars Institute 2019**
May 14, 2019 at University of Alabama in Huntsville, AL, USA
- **Judge at Alabama Robotics Competition**
April 6, 2019 at University of Alabama, Tuscaloosa, AL, USA
- **Judge at Undergraduate Research and Creative Activity Conference 2019**
March 27, 2019 at University of Alabama, Tuscaloosa, AL, USA
- **ALEPSCOR NSF Day**
May 1, 2018 at University of Alabama at Birmingham, AL, USA
- **Judge at Alabama Robotics Competition**
April 7, 2018, at The University of Alabama
- **Judge at 2018 Undergraduate Research and Creative Activity Conference**
March 28-30, 2018, at The University of Alabama
- **2018 Alabama Computer Science Education Summit**
March 14, 2018, Montgomery, AL, USA
- **2017 International Workshop on Software Engineering for High Performance Computing in Computational and Data-Enabled Science and Engineering**
SC17 International Conference, November 12, 2017, Denver, CO, USA
- **2017 North American Einstein Toolkit School and Workshop**
Jul 31 - Aug 4 at National Center for Supercomputing Applications, Urbana, IL, USA
- **Scaling to Petascale Institute - BLUE WATERS Sustained Petascale Computing**
June 26 - 30, 2017 at Beckman Institute for Advanced Science and Technology, Urbana, IL
- **Volunteer at Alabama Robotics Competition**
April 8, 2017 at University of Alabama, Tuscaloosa, AL, USA

Others

- **Excellent Performance Award** from Dept. of CSE, RUET in 2013
- **Excellent Performance Award** from Dept. of CSE, RUET in 2014
- **Champion** prize at inter university software/project contest at BUET CSE-FEST 2013
- **Champion** prize in software category at digital innovation fair 2013.
- **7th position** at EATL-Prothomalo Apps contest 2014
- **7th position** in IT Business Idea challenge at IUT CSE Carnival 2014
- **5th Position** at Inter-University Programming Contest at RUET CSE-FEST in 2012
- **Runner up** at programming contest at RUET in 2011
- **Jury Board member** at “National Mobile apps contest” in Bangladesh for the year 2015