

# JAHID HASAN

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## EDUCATION

### Iowa State University

Iowa, USA

- **Ph.D. in Computer Science (STEM)**, GPA: 3.58/4.00 Aug. 2021– Expected 2025
  - **Advisor:** Dr. Nicole Nastaran Hashemi
- **MS in Computer Science (STEM)**, GPA: 3.58/4.00 Aug. 2021–Dec. 2024
  - **Advisor:** Dr. Wensheng Zhang
  - **Dissertation** (Working Title): Data Privacy on Cloud Storage Services
- **MS in Entrepreneurship** (The Ivy College of Business: AACSB Accredited), GPA: 3.58/4.00 Jan. 2023–Dec. 2024

### Nanjing University of Posts and Telecommunications

Nanjing, China

- **MEng in Information and Communication Engineering**, GPA: 3.85/4.00 Sep. 2017–Jun. 2020
  - **Advisor:** Dr. Minghai Xu
  - **Dissertation:** Bulletproofs: A Non-Interactive Zero Knowledge Proof Protocol For Blockchain Security

### Atish Dipankar University of Science and Technology

Dhaka, Bangladesh

- **BSc in Electrical and Electronic Engineering**, GPA: 3.90/4.00 Jan. 2013–May. 2017

## RESEARCH & TEACHING INTERESTS

- Machine Learning
- Data Analysis and Visualization
- Security and Privacy
- Database Management

## RELEVANT SKILLS

- **Software & Tools:** MS Excel, Tableau, GitHub/Perforce, JIRA, AWS, Docker, Nmap, Wireshark, Packet Tracer
- **Programming Languages:** Python (PyTorch, Tensorflow), C/C++, Java, SQL, NextJS, React, TypeScript

## TEACHING EXPERIENCES

### Teaching Assistant

Aug. 2021 – Present  
Ames, IA

- **Department of Computer Science, Iowa State University**
  - **Course:**
    - \* **COMS 3520:** Introduction to Operating Systems (Spring'22, Fall'22, Spring'23, Spring'24)
  - **Responsibilities:**
    - \* Led and coordinated recitation classes for 140+ students per semester, fostering a 60% increase in student engagement through interactive platforms like Piazza and Slack
    - \* Mentored students to deepen their understanding of operating systems concepts, including xv6 OS projects (C programming), scheduling policies (MLFQ, RR, stride scheduler), multithreading, file systems, system calls, and encryption/decryption
    - \* Conducted office hours, provided one-on-one guidance, proctored exams, and graded assignments, contributing to a positive learning environment for all students
- **Course:**
  - \* **COM S 2520:** Linux Operating Systems Essentials (Fall'21)
- **Responsibilities:**
  - \* Designed and delivered engaging lab activities for 140+ students in a hands-on Linux course, covering installation, administration, and advanced topics like kernel builds and package management
  - \* Assisted student learning through 14 projects covering dual boot systems, file permissions, process management, shell scripting, web server creation, network file sharing (NFS/Samba), and router configuration
  - \* Mentored students, facilitated communication through Piazza and contributed to their success by grading projects, exams, and assignments

## RESEARCH EXPERIENCE

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### Research Assistant

Mar 2024 – Present

Ames, IA

- **Dr. Hashmei Lab**, Iowa State University
- Contributed to the development of a novel machine-learning approach for microfluidic material property prediction

### Research Assistant

Feb 2024 – Present

Ames, IA

- **Dr. Zhang Lab**, Iowa State University
- Conducting ongoing MS thesis project on enhancing privacy-preserving data sharing and analytics on cloud servers in alignment with OSTP's (The Office of Science and Technology Policy) Advance Privacy-Preserving Data Sharing initiative

### Research Assistant (Visitor)

Jun. 2022 - Aug. 2022

Ames, IA

- **Data Storage Lab (DSL)**, Iowa State University
- Conducted in-depth research on configuration dependency components of Linux file systems, resulting in the publication of three research papers in top conferences (cited in the acknowledgment section)
- Developed a configuration state builder tool that generated mke2fs configuration states based on its self-dependency (SD) and cross-parameter dependency (CPD), resulting in a 25% increase in the efficiency of generating configuration states
- Designed and programmed a parallel testing framework to test a total of 25 EXT4 image file systems, resulting in a 57.6% increase in testing efficiency and identifying and analyzing 35 dependency bugs

## PROFESSIONAL EXPERIENCE

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### Project Manager

May 2023 – Present

Remote

- **BLÜ Games (Startup) – Title: Arcane Arena**
- Implemented project management tools to streamline cross-functional team communication, collaboration, and task tracking for deliverables
- Strategically created agile methodologies to delegate tasks and track progress, achieving a 90% successful completion rate for game design projects
- Led the QA team in crafting and executing robust testing plans, insightful reporting, and efficient closure for timely releases

### Technical Support Engineer - Intern

Oct. 2019 – Jan. 2020

Shanghai, CN

- **Shanghai Wicresoft Co. Ltd.**
- Managed vendor relationships with Microsoft and resolved over 500 technical issues for Cloud Office 365 (SharePoint Online, OneDrive For Business) customers across the APGC region
- Implemented a streamlined system for tracking and capturing technical issues and documenting incidents and customer suggestions, boosting team productivity by 50%

### Software Engineer Intern

Jun. 2019 – Oct. 2019

Remote, ROK

- **LNK Protocol**
- Achieved a flawless 100% bug fix rate in 2 software engineering tasks, resolving 7 critical issues through A/B testing, regression, and CI/CD pipelines in Jenkins, leveraging GitHub for version control and collaboration
- Spearheaded the development and implementation of the world's first DAG-infused blockchain, resulting in a 50% increase in transaction query processing speed

### University Representative

Aug. 2018 – Jan. 2019

Nanjing, CN

- **Foreign Talent Association**
- Organized and moderated large-scale events for international students and expats, with over 100 attendees per event
- Produced and published 5+ articles for the FTA official WeChat account, resulting in a 20% increase in engagement and over 1,000 followers in the online community

## ENTREPRENEURSHIP/LEADERSHIP EXPERIENCE

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### ISU I-Corps Fellow

Mar. 2023 – Apr. 2023

- **Great Lakes I-Corps Hub**

Ames, IA

- Conducted comprehensive customer discovery interviews to understand target market needs, pain points, and potential value propositions, leveraging insights to refine product-market fit
- Analyzed and evaluated rigorous hypothesis validation, rapidly iterating product strategies based on comprehensive customer discovery insights to optimize market fit

### ISU Startup Factory Cohort 12 Fellow

Aug. 2022 - Dec. 2022

- **ISU Pappajohn Center for Entrepreneurship**

Ames, IA

- Developed and validated a comprehensive business model, including formulating a clear one-liner, value proposition, and commercial plan to present and pitch a viable startup idea effectively
- Demonstrated strong business acumen and leadership skills by executing customer discovery, market research, and financial planning tasks, culminating in creating a pitch deck and comprehensive commercialization strategy

## RECENT PROJECTS

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### IntelliParse Software | NextJS, React, TypeScript, Tailwind CSS, OpenAI API

Mar. 2024

- Developed IntelliParse AI to extract information and generate insights from any documents

### Financial Data Research Tool | Python, LangChain

Feb. 2024

- Developed StrataQuant, a lightning-fast framework that facilitates real-time financial data analysis by 50%, empowering data-driven strategies for investments, stocks, equities, hedge funds, and asset management

### Xv6 OS for RISC-V | C Programming

2022–Present

- Implemented and developed system calls for process management and file system access, utilizing MLFQ, RR scheduling, and multithreading principles

## VOLUNTEERING/MENTORING EXPERIENCE

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### Mentor

Feb. 2024 – Mar. 2024

- **DreamUniGuide**

Remote

- Delivered and coached online lectures and provided individual guidance to diverse Bangladeshi students aspiring for data science and machine learning research in the USA

### Volunteer

Oct. 2023 – Dec. 2024

- **Materials and Resource Department, Ames Public Library**

Ames, USA

- Maintained a well-organized library book collection, ensuring easy accessibility for patrons

### Volunteer

Sep. 2023 – Dec. 2024

- **Food at First, First Christian Church**

Ames, USA

- Assisted in offering help and making a positive impact to feed people struggling with hunger and food insecurity

## PUBLICATIONS

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K. Mridha, **J. Hasan**, S. D, A. Ghosh. "Phishing URL Classification Analysis Using ANN Algorithm." *IEEE 4<sup>th</sup> International Conference on Computing, Power and Communication Technologies (GUCON)*, 2021, pp. 1-7. doi:10.1109/GUCON50781.2021.9573797

**J. Hasan** (2019). "Overview and Applications of Zero Knowledge Proof (ZKP)." *International Journal of Computer Science and Network (IJCSN)*, Vol.8(5), pp.436-440. Retrieved from: Researchgate

**J. Hasan**, T. Karmaker, M. I. Ahmed (2019). "Mathematical Modeling and Simulation Based System Identification of Non-minimum Phase Electro-Hydraulic Servo (EHS) System." *International Journal of Engineering Research & Technology (IJERT)*, Vol.8(09), pp.189-195. doi:10.17577/IJERTV8IS090063

## PRE-PRINT PAPERS

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**J. Hasan.** "Security and Privacy Issues of Federated Learning." arXiv preprint arXiv:2307.12181 (2023). Link to Pre-Print

**J. Hasan.** "An Analysis of Bugs In Persistent Memory Application." arXiv preprint arXiv:2307.10493 (2023). Link to Pre-Print

## SERVICES

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- **Journal Reviewer:**

- [2023] **IEEE Transactions on Neural Networks and Learning Systems**
- [2022] **IEEE Transactions on Information Forensics and Security**
- [2022] **Springer Nature: The International Journal of Information Security**

## MEDIA COVERAGE

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**Entrepreneurs Competition:**

- [2022] Finalist at the **International Immigrant Entrepreneurs Summit**, Iowa, USA.  
News Article: **WeAreIowa** and YouTube Link: **YouTube**

## AFFILIATIONS

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**Organization Name:** Finance Club/Student Member

**Organization Name:** MBA & Specialized Masters Association (MBASMA)/Student Member

**Organization Name:** Computer Science Graduate Student Organization (CSGSO)/Former Faculty Senator Officer

## ACCOMPLISHMENTS

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- [2023] **ISU National Science Foundation Innovation Corps (I-Corps) Program For Entrepreneurs** hosted by the **NSF I-Corps Hub: Great Lakes Region**, Certificate
- [2023] Awarded the International Scholar Business Graduate Scholarship at Ivy College of Business, ISU
- [2022-23] Former **Faculty Senator Officer** of the Computer Science Graduate Student Organization (CSGSO), ISU
- [2022] ISU Startup Factory Program For Entrepreneurs - Cohort 12 Fellow, **ISU Startup Factory/Research Park**
- [2021] Awarded the Graduate Teaching Assistantship position at Iowa State University
- [2017-20] Received NJUPT First Level Scholarship
- [2018-19] Received Nanjing Municipal Government International Student Scholarship Award

## CERTIFICATIONS

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- Tableau Essential Training by Curt Frye, *LinkedIn Learning*
- Querying Microsoft SQL Server 2022 by Adam Wilbert, *LinkedIn Learning*, Certificate
- Microsoft SQL Server 2022 Essential Training by Adam Wilbert, *LinkedIn Learning*, Certificate
- Atlassian Managing Jira Projects (ACP-620) Certification by Atlassian University, *LinkedIn Learning*, Certificate
- Project Management Foundations by Bonnie Biafore, *LinkedIn Learning*, PMI Certificate
- Foundations: Data, Data, Everywhere by *Google*, Coursera Certificate

## SELECTED COURSEWORK

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### MS in Computer Science:

- COM S 511: Design and Analysis of Algorithms
- COM S 559: Security and Privacy in Cloud Computing
- COM S 561: Database Design, Management, and Research
- COM S 573: Machine Learning
- COM S 579: Natural Language Processing
- COM S 673: Advanced Topics in Machine Learning

### Online Courses:

- MIT SC0x: Supply Chain Analytics
- TCM Security: Practical Ethical Hacking
- Complete CCNA (200-301) Master Class
- Wireshark: Packet Analysis and Ethical Hacking

## REFERENCES

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### Dr. Wensheng Zhang

Position: Associate Professor, Department of Computer Science, Iowa State University  
Email: [wzhang@iastate.edu](mailto:wzhang@iastate.edu)  
Phone: (515)-294-2821

### Dr. Ying Cai

Position: Associate Professor, Department of Computer Science, Iowa State University  
Email: [yingcai@iastate.edu](mailto:yingcai@iastate.edu)  
Phone: (515)-708-7340

### Dr. Nicole Hashemi

Position: Associate Professor, Department of Mechanical Engineering, Iowa State University  
Email: [nastaran@iastate.edu](mailto:nastaran@iastate.edu)  
Phone: (515)-294-2877

### Dr. Matthew Tancreti

Position: Assistant Teaching Professor, Department of Computer Science, Iowa State University  
Email: [tancreti@iastate.edu](mailto:tancreti@iastate.edu)  
Phone: (515)-294-7452