Miraz Uz Zaman

Research Scientist, Louisville, KY, US

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Experience

INFOBEYOND TECH LLC. | Research Scientist

July 2023 – Current | Louisville, KY, U.S.

- Spearheading research and development initiatives in the domains of Cybersecurity, Blockchain, and Machine Learning.
- Analyzing complex technical challenges and innovating new solutions while rigorously comparing these innovations with existing methods.
- Orchestrating informed decision-making regarding the adoption of cutting-edge technologies, updated security compliance's open-source software, and development pipelines to evaluate their potential advantages and disadvantages in the project context.
- Crafting compelling PowerPoint presentations to effectively communicate project outcomes.

LA TECH UNIVERSITY | Graduate Research Assistant

December, 2017 – July, 2023 | Ruston, LA, U.S.

- Proposed a novel post-quantum Hash algorithm/Pseudo-random number generator using Isogeny based Elliptic Curve Cryptography. Designed, tested, and analyzed the algorithm.
- Designed Blockchain Consensus architectures for real-world applications, developed prototypes, and conducted performance analysis.
- Developed a Hash generation algorithm for hierarchical structures using parallel computing, implemented it, and performed comprehensive testing.

INFOBEYOND TECH LLC. | Graduate Research Intern

January, 2021 - August, 2021 | Louisville, KY, U.S.

- Created and deployed Intel SGX-based applications, assessing their performance in different environments, and also crafted APIs for these applications.
- Utilized Intel SGX to implement Hyperledger Fabric Blockchain, enabling a distributed architecture for grid data storage and delivery within Docker Containers.

Selected Publications

- **M.U. Zaman**, M. Min. Supersingular Isogeny-Based Single Compression Cryptographic Hash Function, Accepted in Globecom 2023 CISS
- **M. U. Zaman**, T. Shen and M. Min, "Proof of Sincerity: A New Lightweight Consensus Approach for Mobile Blockchains," 2019 16th IEEE Annual Consumer Communications & Networking Conference (CCNC), Las Vegas, NV, USA, 2019, pp. 1-4. doi: 10.1109/CCNC.2019.8651742
- **M. U. Zaman** and M. Min, "Decentrally-Consented-Server-Based Blockchain System for Universal Types of Data," 2020 IEEE International Symposium on Networks, Computers & Communications (ISNCC'20), Montreal, Canada, 2020, pp. 1-6. doi: 10.1109/ISNCC49221.2020.9297229
- **M. U. Zaman**, T. Shen and M. Min, "Hash Vine: A New Hash Structure for Scalable Generation of Hierarchical Hash Codes," 2019 IEEE International Systems Conference (SysCon), Orlando, FL, USA, 2019, pp. 1-6. doi: 10.1109/SYSCON.2019.8836921

Skills

PROGRAMMING

Proficient:
Python • SQL • Rust

Experienced:
Java • Shell

Familiar:
C • C++ • Assembly

LIBRARIES/FRAMEWORKS

tcpdump • Scapy • OpenSSL • Pycrypto • Pandas

TOOLS/PLATFORMS

Git • Hyperledger Fabric • SageMath • Docker • Wireshark

Education

LA TECH UNIVERSITY

PhD in Computational Analysis & Modeling

Dec 2017 - Aug 2023 | Ruston, LA

Cum. GPA: 3.8 / 4.0

LA TECH UNIVERSITY

MS in Computer Science

Feb 2020 - Feb 2022 | Ruston, LA

Cum. GPA: 3.8 / 4.0

KUET

BSC in Electrical and Electronic Engineering

Mar 2010 - Sep 2014 | Khulna, Bangladesh

Cum. GPA: 3.6 / 4.0

References

Reference Available Upon Request