RAHAT HASAN

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SUMMARY

A passionate and enthusiastic Materials Science and Engineering graduate with a deep interest in research and development. Highly motivated and adaptable, I thrive in exploring new scientific challenges while continuously expanding my knowledge base. With strong punctuality, discipline, and fast-learning capability, I aim to contribute meaningfully to academic research and establish myself as a valuable asset in advancing materials science.

RESEARCH INTEREST

High Entropy Alloys, Additive Manufacturing, Advanced manufacturing, Materials Processing, Optoelectronic materials, Molecular Dynamics.

RESEARCH EXPERIENCE

Undergraduate Research Work (February, 2023 – March, 2024)

Department of Materials Science and Engineering, Khulna University of Engineering and Technology

Investigation of the mechanical properties of BCC refractory High Entropy Alloy under extreme conditions.

Thesis Title: *"Atomistic Simulation of Mechanical Behavior and Deformation Mechanism in HfNbTaTiZr High Entropy Alloy: Influence of Strain Rate and Temperature."*

Research Supervisor: Wahidur Rahman Sajal

PUBLICATION

- **Hasan R**, Islam MdR, Hossen MdB, Sajal WR. *Atomistic Simulation of Mechanical Behavior and Deformation Mechanism in HfNbTaTiZr High Entropy Alloy: Influence of Strain Rate and Temperature.* Results Mater 2025:100779. https://doi.org/10.1016/j.rinma.2025.100779.
- Riazul Islam Md, Islam J, **Hasan R**, Hasan M. *Effect of alloying element content, temperature, and strain rate on the mechanical behavior of NbTiZrMoV high entropy alloy: A molecular dynamics study.* Mater Today Commun 2024;40:110071. https://doi.org/10.1016/j.mtcomm.2024.110071.

ACADEMIC CREDENTIALS

Bachelor of Science- Materials Science and engineering *March 2024*

Khulna University of Engineering and Technology, Bangladesh

CGPA: 3.56/4.00 (Last 61 credit: **3.97/4.00)**

UNDERGRADUATE PROJECTS

- Alternative materials selection for badminton racket using CES Edupack *June 2023*
- Design of per day 50 ton capacity ferritic stainless steel ingot production plant *November 2022*

INDUSTRIAL TRAINING AND ATTACHMENTS

- BSRM Steel Mills, Chittagong, Bangladesh *August 2023*
  Completed a 7 days hands-on training in the largest mild steel billet and rebar manufacturing industry in Bangladesh.

HONORS AND AWARDS

- **Dean's Award (2 times)-** For achieving a grade of minimum 3.75 in a session *2020-21, 2021-22*
- **University Technical Merit Scholarship** *2018-19, 2019-20, 2020-21, 2021-22*

SKILLS

- **Simulation:** Lammps, Materials Studio, Atomsk
- **Visualization:** Ovito, CES Edupack, Vesta
- **Graphing and Data analysis:** Origin, Excel, Python (Numpy, Pandas)
- **Office Software:** Microsoft Office suite, Google Suite.
- **Soft Skills:** Adaptability, Team work, Problem solving, Critical thinking

REFERENCES

Wahidur Rahman Sajal
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