

# MD NASIM

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## EDUCATION

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- **Purdue University, West Lafayette, IN** (Expected Graduation: 2022)
  - PhD in Computer Science
- **Bangladesh University of Engineering and Tech.** Graduation: September 2015
  - BSc in Computer Science and Engineering

## PROFESSIONAL EXPERIENCE

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- **Data Analysis Intern, Wabash National Corp.** Summer 2019
  - Designed automated and easy-to-use KPI monitoring tool for supply chain management team, eliminating the need for error-prone manual monitoring process
- **Graduate Teaching Assistant, Purdue University** Fall 2017 - Fall 2020
  - Developed and tested course projects in **Java**, **Python** and **C**
  - Conducted discussions, lab sessions and tutorial classes.
  - Courses: *Data Structure and Algorithm*, *C Programming*, *Machine Learning*

## LANGUAGES AND TECHNOLOGIES

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Python, C, C++, Java, PyTorch, Scala, Oracle

## PROJECTS

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- **Learning physics models from real-world data**
  - Implemented a neural network based approach to learn the physics simulation model behind evolution of natural shapes like microstructure damage in materials, snowflake growth etc. directly from real-world video data
  - Eliminated the need for human expert in the loop to tweak model simulation parameters
- **Crystalline defect identification in materials**
  - Designed a CNN-based detect-and-track system to identify radiation induced defects generated in materials, from real-world video data
  - Discovered a new physical property of crystal defects under irradiation
- **Touchless input device leveraging visible light**
  - Designed a low-cost, energy-efficient hardware for multi-directional gesture recognition
- **Music recommender system from playlist history**
  - Designed a music recommender, by embedding the previously played tracks using *Word2Vec* and predict the next track based on these embedded features
- **Optimizing spatio-temporal keyword search queries**
  - Proposed and implemented an indexing structure to hierarchically organize time and space attributes, for optimizing the search queries containing both time and location

## EXTRA-CURRICULAR ACTIVITIES

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- **Purdue Bangladeshi Student Association**
  - Vice-president (2019-2020)
  - Sports Secretary (2018-2019)

## SELECTED PUBLICATIONS

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- T. Niu, **Md Nasim**, R. Annadanam, C. Fan, Jin Li, Zhongxia Shang, Y. Xue, Anter El-Azab, H. Wang, and X. Zhang. Recent studies on void shrinkage in metallic materials subjected to in situ heavy ion irradiations. *JOM*, 72, 09 2020
- Tusher Chakraborty, Md Taksir Hasan Majumder, **Md Nasim**, and ABM Alim Al Islam. Duity: A low-cost and pervasive finger-count based hand gesture recognition system for low-literate and novice users. In *Proceedings of the 15th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services*, pages 352–361, 2018
- Tusher Chakraborty, **Md Nasim**, Sakib Md. Bin Malek, Md. Taksir Hasan Majumder Sami, Mohammed Samiul Saeef, and A. B. M. Alim Al Islam. Sporshohin: A tale of devising visible light based low-cost robust touchless input device. In *Proceedings of the 7th Annual Symposium on Computing for Development*, ACM DEV '16, pages 1:1–1:10, New York, NY, USA, 2016. ACM
- Mohammed Eunus Ali, Saif-ul-Islam Khan, Sharowar Md Shahriar Khan, and **Md Nasim**. Spatio-temporal keyword search for nearest neighbour queries. *Journal of Location Based Services*, 9(2):113–137, 2015