

Fahmid Morshed Fahid

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EDUCATION

NORTH CAROLINA STATE UNIVERSITY

PHD IN COMPUTER SCIENCE
Expected 2024 | AI in Education

NORTH CAROLINA STATE UNIVERSITY

MSC IN COMPUTER SCIENCE
2018 - 2022 | CGPA (3.80/4)

SKILLS

PROGRAMMING

Over 100000 Lines of Code:

Python • Java • C++ • C# • PHP

Libraries and Frameworks:

Pytorch • Keras • Stable Baselines •
OpenAI Gym • D3rlpy • Scikit-learn •
Hugging Face • Weka • JQuery • JSP •
JDBC • REST APIs • Pandas

Other Tools:

Git • SVN • Mercurial • MySQL •
MongoDB • Unity • Shell • Openface

AREA OF EXPERTISE

Deep Reinforcement Learning



Natural Language Processing



Classical Machine Learning



Multimodal Learning



Deep Learning



Data Mining & Feature Engineering



EXTRA CURRICULAR

- Program committee member of International AIED Society since 2022.
- Peer-reviewed many renowned journals & conferences like JAIED, IJCAI, IJEDM, SIGCSE, UMAP, LAK, and AAAI.
- Regional Winner: Microsoft Imagine Cup 2016, Bangladesh.

WORK EXPERIENCE

META | PHD SOFTWARE ENGINEER (MACHINE LEARNING) INTERN

May 2022 – August 2022 | PYMK Team | Menlo Park, CA

- Optimized pending friend requests' bidding in news feed of Facebook by using **deep reinforcement learning** and **contextual bandits**.
- Online evaluation showed an increment of in **2% daily active user**.
- Collaborated with multiple teams to document bidding pipeline.
- PyTorch, Hack, PHP, Mercurial, Internal: Bento, DAI, FBL.

META | PHD SOFTWARE ENGINEER (MACHINE LEARNING) INTERN

May 2021 – August 2021 | FCWB Team | Remote

- Personalized public figure comment ranking in Facebook using **graph embedding** through **deep learning**.
- Launched the model in production resulting in a **4% ROC-AUC improvement**.
- PyTorch, SQL, Mercurial, Internal: DAI, Fluent2, Filament2, GRASP.

POWER COSTS | SOFTWARE ENGINEER INTERN

May 2019 – August 2019 | Product Engineering Team | Raleigh, NC

- Developed an internal tool for splitting legacy projects into multiple smaller **SVN repositories** that reduced **6% storage in AWS**.
- SVN, Python, Java, Powershell.

REVE SYSTEMS | SOFTWARE ENGINEER

February 2017 – July 2018 | Billing Team | Dhaka, Bangladesh

- **Full stack agile development** of multiple websites including one e-commerce website, one Government website, one internal CRM.
- Maintained servers, databases, and network bandwidths for many websites.
- SVN, REST, JS, Java, MySQL, Shell, JDBC, JSP.

RESEARCH EXPERIENCE

EDUCATIONAL AI | PHD | GRADUATE RESEARCH ASSISTANT

- Online deep RL-based pedagogical planning can devise better policies than offline counter parts for enhancing students' learning. **Submitted**.
- Offline deep RL-based cognitive engagement results in 8- 21% higher learning gain among students. **AIED'21**.
- Inverse deep RL can infer immediate rewards of students' learning and results in faster convergence. Published: **AIED'22**.
- Quantitative and qualitative analysis of hint-requests showed five clusters of student behaviors. **SIGCSE'21**.
- Time-series clustering showed three distinct progression patterns among students block-based programs. **UMAP'21**
- Deep learning-based multimodal models for students' engagement can outperform unimodal models, trading resources for accuracy. **LAK'23**

SOFTWARE ENGINEERING | MSC | GRADUATE RESEARCH ASSISTANT

- Machine learning with human-in-the-loop can identify technical debts in source code comments achieving 83% recall with 16% data. **TSE'19**.
- Machine learning-based test case prioritization with total recall can outperform prior approaches for early failure detection. **FSE'19**.