Yining Hou

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Education

East China Normal University, *Bachelor* 2019.9 –2023.6

- **Major**: Software Engineering
- **Courses**: Digital Logic (Theory and Practice 4.0/A), Principles of Programming (4.0/A), Data Structures and Algorithms (4.0/A), Object-Oriented Programming (Java 4.0/A), Functional Programming (4.0/A)

KTH Royal Institute of Technology, *Master* 2023.9 –present

- **Major**: Software Engineering of Distributed Systems
- **Courses**: Modern Methods in Software Engineering (A), Programming of Interactive Systems (A), Methods in High Performance Computing (A)

Skills

- **Programming Languages**: Java, Python, C/C++, Kotlin, JavaScript, PHP, Erlang
- **Tech Skills**: Distributed Systems, Database Management, Mobile & Web Development, Docker, Git
- **Non-Tech Skills**: Agile, Scrum, Leadership
- **Communication**: English(IELTS - 7 .5), Chinese(Mother Tongue), Japanese(N3), Swedish(A2)

Experience

KTH Data Systems Lab, Research Engineer 2024.6 –present

- Integrated an link prediction model to the automated training and inference pipeline. Updated the model architecture to make it inductive.
- Hooked up the link prediction model to the middleware. Parsed Orb DB logical plans and matched traversal operators to the link prediction model.

SAP, Android Developer Intern 2022.1 –2022.11

- Developed SAP for Me Android version. Worked on mobile development and collaborated in back-end services and deployment. Maintained documentations for research.
- Participated in the whole process of app lifecycle from development to version release.
- Managed fundamental quality checks like Unit Test, API Tests, TDD, BDD and Jenkins jobs.

Projects

Distributed Graph Neural Networks Training 2024

- Implemented k-hop neighborhood queries and message-passing-based neighborhood aggregation for GNN training, utilizing RPC and Socket protocols.
- Innovated with marker-based asynchronous training by integrating Chandy-Lamport algorithm with Epoch Snapshotting, using a TCP Socket FIFO channel to keep causality.

Finite Difference Wave Equation Simulation 2024

- Set up a double-slit experiment and optimized execution using HPC techniques: OpenMP for the shared-memory version and MPI for the distributed version.
- Analyzed performance with different threads and processes and developed a performance model. Achieved significant speed-up on Dardel HPC system.

Distributed Multi-Agent System based on GAMA 2024

- Implemented a party scenario and optimized agent decision-making using machine learning, leading to adaptive behavior and increased happiness among agents over time.
- Integrated reinforcement learning using Q-learning and the Upper Confidence Bound.