Enming GUO

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EDUCATION

University of California, San Diego 2023/09–2025
M.S. Computer Science *La Jolla, CA*

University of California, Irvine 2022/08–2023/06
B.E.&M.E. Computer Engineering (Exchange Student for 3+2 Joint Training Program) *Irvine, CA*

- **GPA:** 3.97/4.0
- **Courses:** Principles of Data Management, Beyond SQL Data Management, Machine Vision.
- **Specializations:** Database Management System, Computer Vision (UCI Computer Vision Laboratory).

Northeastern University (CN) 2019/09–2023/06
B.Eng. Computer Science & Technology *Shenyang, China*

- **GPA:** 4.435/5.0 | **Ranking:** No.1/221 (**GPA:3.99/4.0** Certified by WES (World Education Services))
- **Courses:** Computer Architecture, Database Principle, Operating System, Distributed Programming, Big Data Algorithm, Data Science Foundations, Data Structures, 7 mathematics courses (83 courses in total).
- **Specializations:** Management and Analysis of Big Graph, Graph Neural Network.

EXPERIENCE

Research work 2022/09–2023/06
Computer Vision Laboratory at UC Irvine *Irvine, CA*

- Researched "Spectral Image Filtering" and "Model of Spinning Ball under Complex Forces" under Prof. Glenn Healey.
- Used large sets of sensor data to model the diverse and complex forces on the spinning baseball.
- Led the lab in analyzing Hyperspectral Data Cubes and determined main bands in SWIR and NWIR spectra.

Industrial Big Data Intern 2022/06–2022/08
Neusoft Corporation *Shenyang, China*

- Applied Industrial Toolsets to develop a Movie Recommendation and Information Visualization Platform.
- Utilized SpringBoot framework to finish the website and combined Spark, Scala, and Hadoop to implement distributed data analysis.

Winter-Camp Academic Project 2022/01–2022/02
University of Cambridge *Remote / Cambridge, UK*

- Researched "Automatic License Plate Recognition Based on Different Kinds of Images" under Full Prof. Pietro Liò.
- Used Yolov5 and CNN + Bi-GRU model to finish the ROI capture and character recognition.
- Completed the whole License Plate Recognition System and comparison with existing results in this field.

Research work 2020/09–2022/05
Brain Science and Big Data Analysis Lab at Northeastern University (CN) *Shenyang, China*

- Researched methods to apply dynamic brain networks in Aided Alzheimer's Diagnosis under Prof. Junchang Xin.
- Designed algorithms on mining sequential discriminative subgraph and constructing evolving graph neural network.
- Published a paper and three computer software copyright registration certificates.

ACM/ICPC Intensive Training Team Member 2020/01–2021/10
ACM/ICPC Intensive Training Team at Northeastern University (CN) *Shenyang, China*

- Learned many traditional/advanced algorithms and data structures via training courses and competitions.
- Led a team to participate in ICPC contests and won prizes in ICPC Asia Regional Contest.

PROJECTS

Aided Alzheimer's Diagnosis System | *Python, MATLAB, Pytorch, ttkbootstrap* 2023/03–2023/06

- Designed Aided Alzheimer's Diagnosis System based on evolving graph neural network.
- Utilized DPARSF toolkit to finish preprocessing on fMRIs from ADNI and MATLAB to construct dynamic brain network.
- Constructed E-GraphSage and E-GCN models as classifications via Pytorch geometric libs.
- Utilized ttkbootstrap libs as frontend design and Django frame as backend design.
- **Completed my bachelor's degree graduation thesis (in English) "Design and Implementation of Aided Diagnosis System of Alzheimer's Disease Based on Evolving Graph Neural Network".**

Database Management System | *C++* 2023/01–2023/03

- Designed the database hierarchical structure, including index management layer and query engine.
- Completed the B+ tree coding and saved positioning time via node merging, separation, and rotation.
- Utilized multiple methods to implement operators, such diverse JOIN algorithms (BNLJ, INLJ, GHJ).

Imitative Linux File System | *C++* 2022/05–2022/06

- Designed disk external storage, partitioned disk blocks, designed file storage mode, and used Group Link algorithm to allocate free disk blocks.
- Developed comprehensive function points, including cascade create, cascade delete, copy, cut, soft link and hard link.
- Implemented the interaction based on imitative Linux query language and the parsing process of complex query functions.

SKILLS

Programming languages: Python, Java, C, C++, MATLAB, MySQL, HTML/CSS/JavaScript, VHDL

Developer tools: git, SSH, Linux, VS Code, Visual Studio, PyCharm, Eclipse

Skills: SpringBoot, Maven, ElasticSearch, Hadoop, Docker, Scala, Spark, MongoDB, Neo4j, Django

AWARDS

Scholarships

- **Baosteel Outstanding-Student Award** (with scholarship) for 2022 (**Top 0.02%,** National-wide)
- **National Scholarship**, **twice** for 2020/2021 (Top 1.8%, National-wide)
- First-Prize Scholarship of Northeastern University, Triple for 2020/2021/2022 (Top 4%, University-wide).

Honors

- Honorary title of "**Outstanding Graduates of Liaoning Province**" in 2023 (Provincial-wide)
- **National Excellent**, the project funded by "National Innovation and Entrepreneurship Training Plan for College Students" in 2022 (The highest evaluation for project accomplishment, I was the leader of the project team)
- Honorary title of "Outstanding College Students of Shenyang City" in 2022
- Excellent Model Student of Northeastern University, Triple for 2020/2021/2022 (Top 1.4%, University-wide).

Competitions

- **Outstanding Winner:** The 15th Challenge Cup Liaoning Collegiate Extracurricular Academic and Technological Works Competition.
- **Gold Award:** The 7th Liaoning "Internet +" Collegiate Innovation and Entrepreneurship Competition.
- **First Prize:** 2021 China Undergraduate Mathematical Contest in Modeling (Liaoning Region).
- **Third Prize:** 2021 Group Programming Ladder Tournament of China Collegiate Computer Competition (Finals).

PUBLICATIONS

Papers

- Xin JC (tutor), **Guo Enming**, Zhang JZ. Auxiliary diagnosis method of Alzheimer's disease based on sequential discriminative subgraph[J]. Journal of Northeastern University (Natural Science), 2022,43(8): 1089-1096
- Li JY, Tang JF, **Guo Enming**. Crowd emergency evacuation model based on dynamic emotion Drive[J]. Journal of Northeastern University (Natural Science), 2021,42(11):1656-1662
- Cui MH, Zhang RB, **Guo Enming**. Future business forecasting based on multi-mode feature aggregation[J]. Computer Systems & Applications, 2023, 32(2): 25-33.

Computer software copyright registration certificates

- **Guo Enming**, Zhang JZ, Qiu PH, et al. Auxiliary diagnosis system of Alzheimer's disease based on multi-frequency fusion image kernel. Computer Software Copyright (China), No.2022SR0252304, Authorized date: 2022.02.21
- **Guo Enming**, Zhang JZ, Qiu PH, et al. Searching system of sequential discriminative subgraph of dynamic brain function network. Computer Software Copyright (China), No.2022SR0078905, Authorized date: 2022.01.12
- Zhang JZ, **Guo Enming**, Qiu PH, et al. Auxiliary diagnosis of Alzheimer's disease based on dynamic brain network. Computer Software Copyright (China), No.2022SR0190037, Authorized date: 2022.01.29

OTHERS

- **English ability:** GRE 334 (+4.5) (in Oct 2022), TOEFL 111 (in Nov 2022)
- **Personality:** Diligent, Good at organization and communication.
- Served as the Class leader in Charge of Study in 2019-2022.
- As the team leader of Dance Troupe of our School in 2020-2022, organized and participated in many performances.
- Engaged as a Lecturer in the Innovation and Entrepreneurship Promotion Group of the University in 2022.
- Won the First Prize in the 12·9 Long-Distance Running at the University in 2021.