

# Enming GUO

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## EDUCATION

<b>University of California, San Diego</b> <i>M.S. Computer Science</i>	2023/09–2025 La Jolla, CA
<b>University of California, Irvine</b> <i>B.E.&amp;M.E. Computer Engineering (Exchange Student for 3+2 Joint Training Program)</i>	2022/08–2023/06 Irvine, CA
<ul style="list-style-type: none"><li>• <b>GPA:</b> 3.97/4.0</li><li>• <b>Courses:</b> Principles of Data Management, Beyond SQL Data Management, Machine Vision.</li><li>• <b>Specializations:</b> Database Management System, Computer Vision (UCI Computer Vision Laboratory).</li></ul>	
<b>Northeastern University (CN)</b> <i>B.Eng. Computer Science &amp; Technology</i>	2019/09–2023/06 Shenyang, China
<ul style="list-style-type: none"><li>• <b>GPA:</b> 4.435/5.0   <b>Ranking:</b> No.1/221 (<b>GPA:3.99/4.0</b> Certified by WES (World Education Services))</li><li>• <b>Courses:</b> Computer Architecture, Database Principle, Operating System, Distributed Programming, Big Data Algorithm, Data Science Foundations, Data Structures, 7 mathematics courses (83 courses in total).</li><li>• <b>Specializations:</b> Management and Analysis of Big Graph, Graph Neural Network.</li></ul>	

## EXPERIENCE

<b>Research work</b> <i>Computer Vision Laboratory at UC Irvine</i>	2022/09–2023/06 Irvine, CA
<ul style="list-style-type: none"><li>• Researched “Spectral Image Filtering” and “Model of Spinning Ball under Complex Forces” under <u>Prof. Glenn Healey</u>.</li><li>• Used large sets of sensor data to model the diverse and complex forces on the spinning baseball.</li><li>• Led the lab in analyzing Hyperspectral Data Cubes and determined main bands in SWIR and NWIR spectra.</li></ul>	
<b>Industrial Big Data Intern</b> <i>Neusoft Corporation</i>	2022/06–2022/08 Shenyang, China
<ul style="list-style-type: none"><li>• Applied Industrial Toolsets to develop a Movie Recommendation and Information Visualization Platform.</li><li>• Utilized SpringBoot framework to finish the website and combined Spark, Scala, and Hadoop to implement distributed data analysis.</li></ul>	
<b>Winter-Camp Academic Project</b> <i>University of Cambridge</i>	2022/01–2022/02 Remote / Cambridge, UK
<ul style="list-style-type: none"><li>• Researched “Automatic License Plate Recognition Based on Different Kinds of Images” under <u>Full Prof. Pietro Liò</u>.</li><li>• Used Yolov5 and CNN + Bi-GRU model to finish the ROI capture and character recognition.</li><li>• Completed the whole License Plate Recognition System and comparison with existing results in this field.</li></ul>	
<b>Research work</b> <i>Brain Science and Big Data Analysis Lab at Northeastern University (CN)</i>	2020/09–2022/05 Shenyang, China
<ul style="list-style-type: none"><li>• Researched methods to apply dynamic brain networks in Aided Alzheimer’s Diagnosis under Prof. Junchang Xin.</li><li>• Designed algorithms on mining sequential discriminative subgraph and constructing evolving graph neural network.</li><li>• Published a paper and three computer software copyright registration certificates.</li></ul>	
<b>ACM/ICPC Intensive Training Team Member</b> <i>ACM/ICPC Intensive Training Team at Northeastern University (CN)</i>	2020/01–2021/10 Shenyang, China
<ul style="list-style-type: none"><li>• Learned many traditional/advanced algorithms and data structures via training courses and competitions.</li><li>• Led a team to participate in ICPC contests and won prizes in ICPC Asia Regional Contest.</li></ul>	

## PROJECTS

<b>Aided Alzheimer’s Diagnosis System</b> / <i>Python, MATLAB, Pytorch, ttkbootstrap</i>	2023/03–2023/06
<ul style="list-style-type: none"><li>• Designed Aided Alzheimer’s Diagnosis System based on evolving graph neural network.</li><li>• Utilized DPARSF toolkit to finish preprocessing on fMRIs from ADNI and MATLAB to construct dynamic brain network.</li><li>• Constructed evolving graph convolutional network and E-GCN models as classification via Pytorch geometric libs.</li><li>• Utilized ttkbootstrap libs as frontend design and Django frame as backend design.</li><li>• <b>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”.</b></li></ul>	

## 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

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**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

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### 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

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### 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

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- **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.