

# Ms. Peiling Cai

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Fully authorized to work in the US. No visa sponsorship needed.

## Education

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- **Master in Computer Science** 2021.9 – 2024.5  
Texas State University (San Marcos, TX) GPA 3.82 / 4.0  
Course: Software Quality, Algorithm Design and Analysis, Advanced Software Engineering Project
- **Associate in Computer Science** 2018.7 – 2021.8  
Austin Community College (Austin, TX) GPA 4.0 / 4.0
- **Bachelor in Business Administration** 2004.9 – 2008.6  
Southwestern University of Finance and Economics (Chengdu, China )

## Experience

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- **Travel Website Development**
  - Built a full-stack web application using the MERN stack following Agile process. Delivered an intuitive and engaging user interface, scalable operations, and efficient data storage and retrieval.
  - Crafted a detailed Software Requirements Specification (SRS) to outline functional and non-functional requirements, establishing a clear project roadmap.
  - Employed rigorous testing methodologies at every stage (unit, integration, system testing).
- **CTL model checker**
  - Constructed desk application in the MVC architectural pattern and implemented it in Java, leveraging an intuitive JavaFX graphical user interface.
  - Integrated sophisticated algorithms for decomposing complex CTL formulas into ASTs, enabling efficient evaluation against Kripke structures through depth-first search and backtracking techniques.
  - Prepared a detailed test report focused on the evaluation results of CTL formulas against Kripke structures, demonstrating the application's robust verification capabilities.
- **Relational Database Design for Airline Management**
  - Concentrated on the sophisticated design and robust implementation of a relational database.
  - Translated a comprehensive Entity-Relationship diagram into a practical relational schema, implemented using Microsoft SQL Server.
  - Integrated the REST API with the relational database, facilitating seamless data flow and interaction between the system's frontend and backend.
- **DDos Attack Simulation and Evaluation with Multiple VM**
  - Build client with python and C to simulate DDos Attack.
  - Make sure the syn message has the right tcp checksum by capture the ACK message. Check the syn-recv tcp session on victim host, TCP SYN with IP spoofing and dynamic source IP&port.

## Work History

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- **Operation Manager** **Industrial and Commercial Bank of China** **2010.4 – 2015.10**
  - Collaborate with IT department to provide new system requirements and test the iterations of the system.
  - Supervise business process and control operational risk.

## Awards

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- 2023 Computer Science Graduate Academic Excellence Award Texas State University

## Related Skills

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Python, Java, C++, JavaScript, Spring, Linux, 802.11, Ethernet, Wireshark, Object-Oriented Design, Design Pattern, Unit Testing, Integration testing, SQL