Zhiyu Pan

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Toronto, Canada

EDUCATION

University of Toronto, Scarborough — Toronto, ON
BSc Specialist (Co-operative) Program in Computer Science; GPA: 3.65/4.00   *Sep 2021 – May 2025 (Expected)*
Relevant coursework: Linear Algebra, Discrete Mathematics, Introduction to Probability, Software Design, Introduction to Machine Learning and Data Mining, Introduction to Numerical Algorithms for Computational Mathematics

EXPERIENCE

University of Toronto — Toronto, ON
Teaching Assistant   *Sep 2022 – Dec 2022; Jan 2024 – May 2024*
- **Courses:** Calculus for Management, Design and Analysis of Data Structures
- Conducted weekly office hours and tutorials for 90+ students, simplifying complex concepts in calculus and data structures.
- Assisted with exam invigilation and grading, ensuring a fair process.
- Received positive feedback from students and professors for effective teaching methods.

Citi — Mississauga, ON
Software Developer Intern - Rates Team   *May 2024 – Present*
- Develop new features and resolve bugs for a trader desktop application using Java, Spring Boot, and SQL.
- Collaborate with senior developers to design and implement high-performance trading solutions, enhancing functionality and user experience.
- Conduct thorough testing and debugging using Mockito, ensuring high code quality and system reliability.
- Participate in code reviews and contribute to improving coding standards and best practices.
- Optimize SQL queries to improve database performance and reduce latency.
- Work closely with traders and analysts to gather requirements and deliver customized solutions.
- Utilize Agile methodologies to manage tasks and ensure timely delivery of features and fixes.

PROJECTS

Course Planning Application
- Employed the Model-View-Controller (MVC) design pattern to ensure a clear separation of concerns and facilitate smooth user interactions.
- Developed a dynamic course timeline module utilizing the Factory Method pattern, optimizing course placement by considering prerequisites and session availability.
- Built using Java for back-end logic, Android Studio for front-end design, and Firebase for data management, tested the application using Mockito framework.
- Enabled students to explore, select, and integrate courses into their personalized schedules. Equipped instructors with user-friendly capabilities to add and modify course offerings.

System Monitoring Tool
- Developed a C program tailored for Linux environments, proficiently gauging diverse system utilization metrics encompassing CPU and memory usage, fundamental system architecture, and user details.
- Used command line arguments to support different information reporting formats, adapting to user requirements.
- Enhanced efficiency through the implementation of concurrency, employing multiprocesses.

News Article Categorization Model
- Engineered a Python-based machine learning solution utilizing Gaussian Class Conditionals, k-Nearest Neighbors, and Naive Bayes classifiers.
- Mitigated overfitting through comprehensive cross-validation during training on preprocessed data.
- Leveraged the Numpy pandas library for efficient implementation.

Reddit Sentiment Analysis
- Developed an interactive data visualization project analyzing data from Reddit to investigate the correlation between political stance and sentiment expressed in comments.
- Utilized Python, pandas, scikit-learn, NumPy, seaborn, and matplotlib to process, analyze, and visualize data.
- Gathered, cleaned, and analyzed over 46 million comments associated with about 3.5 million posts across 4,465 subreddits.

TECHNICAL SKILLS

Programming Languages: Python, C, Java, Bash, Assembly, MATLAB, HTML5, CSS, SQL, Swift
Tools: Git, Visual Studio, IntelliJ, Eclipse, Android Studio, Xcode, JIRA, Microsoft Office, Linux OS
Tech Skills: Object-Oriented Programming, Algorithm and Data Structures, Pandas, NumPy, Matplotlib, Scikit-Learn
Languages: Chinese (Native), English (Professional), French (Elementary)
Soft Skills: Creativity, Collaboration, Adaptability, Leadership, Conflict Resolution and Negotiation