CHENZHENG LI

236-988-1831 • chenzheng_li@sfu.ca • linkedin • chenzhengli.com/

EDUCATION

Master of Science in Big Data Graduating 2026
Bachelor of Applied Sciences, Specialization in Computing Science Graduated 2025
Simon Fraser University, Burnaby, BC

TECHNICAL SKILLS

Programming Languages: JavaScript/TypeScript, Python, Java, C/C++, SQL, HTML, CSS, R, Linux Shell, LaTex
Frameworks&Libraries: Node.js, Express, React, Redux, Android, Firebase, Material UI, Bootstrap, Pandas, NumPy, scikit-learn, Plotly, Matplotlib, Requests, NLTK, Statsmodels, Seaborn, OpenAPI, Apache Hadoop, Apache Spark
DB & Tools: MySQL, MS SQL Server, MongoDB, PostgreSQL, Elasticsearch, Graylog, AWS EC2, Tencent Cloud, Postman, DBeaver, Docker, Git, IntelliJ, Android Studio, WaveForms, Wireshark, Ultimaker, Autodesk Fusion 360, IBM MQ, Cluster
Knowledge: Data Structure Algorithm, Web Mobile Development, OOP/OOD, Database, Data Communications and Networking, Operating System, Machine Learning, Computational Data Science, Human Computer Interaction Research, Hardware Implementation, Front-end and Back-end Software Development, Database System, Professional Responsibility and Technical Writing, Requirements Engineering, Big Data

WORK EXPERIENCE

Simon Fraser University, Burnaby, BC, Canada: Teaching Assistant Jan 2026 – Present

- Mentor students in HTML, CSS, JavaScript and React fundamentals through debugging help, code walkthroughs, and best-practice guidance.
- Support team-based software projects by facilitating collaboration, guiding group contract development, and monitoring milestone progress.
- Review and manage Git/GitHub workflows in group repositories, including pull-request reviews, merge-conflict resolution guidance, peer testing, and issue tracking.
- Provide weekly office hours and attend weekly course staff meetings; support key course events (project showcases, peer testing sessions, exam invigilation).

Simon Fraser University's ixLab, Burnaby, BC, Canada: Research Assistant May 2024 – Sep 2024

- Worked on the *WooDowel* project to add tap/knock localization on a sensing plywood board using vibration and acceleration signals.
- Built hardware prototypes with an Arduino controller and multiple accelerometers placed at different board locations; collected and synchronized sensor readings during controlled knock tests.
- Designed data collection and calibration procedures (sensor placement, sampling, noise filtering) to improve signal consistency across different positions.
- Analyzed accelerometer signal patterns to infer impact location and evaluated localization performance under different knock strengths and positions; documented findings for iterative design.

Movmint Digital Fiat Works Corporation, Vancouver, BC, Canada: Data/Software Engineering Sep 2023 – April 2024

- Enhanced database retrieval speed by optimizing backend code and queries, cutting key API response time from 2 minutes to under 1 second; developed frontend pagination using JavaScript, TypeScript, and PostgreSQL.
- Resolved persistent query issues in production, established a Graylog database logging service for precise problem detection and resolution, employing Docker Compose, PostgreSQL, Elasticsearch, and MongoDB.
- Aided in developing an internal automated signing software, facilitating multithreaded stress testing, and addressing key validation challenges.

Simon Fraser University's ixLab, Burnaby, BC, Canada: Research Assistant May 2023 – Aug 2023

- Engaged in "WooDowel" project, enhancing plywood sensors with electromagnetic shielding, improving sensitivity and accuracy for real-time human activity monitoring. Key contributor in multidisciplinary team efforts, integrating triboelectric sensors and pioneering smart material applications.
- Spearheaded 3D modeling and production of experimental components, leveraging Fusion360 and Ultimaker 3D printing. Demonstrated expertise in advanced manufacturing techniques and contributed to machine learning model tuning and user experience enhancements.

Whaler Technologies Inc, Remote: Software Engineer Intern Jan 2023 – May 2023

- Engineered a robust merchant interface for a food ordering/pickup app, streamlining the onboarding process and empowering merchants with self-service capabilities for menu management.
- Authored a comprehensive technical design document, facilitating collaborative review sessions with the team to incorporate constructive feedback and refine project outcomes.
- Developed and deployed scalable merchant registration and menu management backend APIs using Node.js and Express, integrating DynamoDB for enhanced data storage and retrieval through AWS-SDK.

Simon Fraser University's Robotics and Sensing Lab, Burnaby, BC, Canada: Research Assistant Nov 2022 – Jan 2023

- Transformed objects in images to 3D models with Point Cloud technology and Python.
- Trained and deployed models in sensors of the robot for recognition with Open3D and Intel's IR sensing cameras.
- Evaluated the performance of the robot in real-world scenarios and improved the application of point cloud.

ACADEMIC PROJECTS

SnapLedger — AI-Powered Expense Capture App Jan 2026 – Present

GenAI Application

- Developing an Android expense-tracking app (Kotlin, Jetpack Compose) that enables one-tap bookkeeping via a persistent notification action and manual receipt/screenshot import.
- Integrating Gemini multimodal API to extract structured fields (amount, merchant, date) from payment/receipt screenshots and auto-assign categories; designed a lightweight review-and-edit confirmation UI before saving.
- Building local data management with Room for structured records and internal storage for original images; designing analytics features (monthly summary, category breakdown) and safeguards (duplicate detection, privacy disclosure for cloud processing).

GSRL Official Website (Sim-Racing League) | gsrlofficial.com Nov 2025 – Dec 2025

Web Development

- Designed and implemented a responsive multi-page league website based on stakeholder requirements.
- Built the site with vanilla HTML/CSS/JavaScript and organized reusable assets/styles/scripts for maintainability.
- Deployed with a custom domain and iterated rapidly based on season updates (results formatting, rules/highlight updates).

Large-Scale Sentiment & Topic Analysis of Amazon Product Reviews Sep 2025 – Dec 2025

Big Data / NLP (GitHub)

- Built a distributed PySpark pipeline for large-scale NLP analysis on Amazon Product Reviews 2023 (571M+ reviews across ~30 years), including ETL, feature extraction, and partitioned processing.
- Implemented scalable sentiment inference using a pre-trained BERT model via PySpark Pandas UDFs to generate sentiment scores (1–5) and confidence for downstream analytics and validation against star ratings.
- Performed BERTopic topic mining on "mismatched" reviews (rating vs. text sentiment conflicts), detected anomalous/suspicious user behavior patterns, and delivered results through a Flask-based interactive dashboard (deployed UI).

YASE: Yet Another Storage Engine Jan 2025 – Apr 2025

Database Systems / Storage Engine

- Built a page-based storage engine in C++, implementing file/page operations and a buffer pool with Pin/Unpin, dirty-page flushing, and LRU replacement.
- Implemented transactional components including a lock manager (shared/exclusive + try-lock semantics enabling "SKIP LOCKED" scans) and a log manager with buffered log records and flush-to-disk.
- Developed skiplist and persistent skiplist indexes (key $\rightarrow$ RID), wrote multi-threaded access tests, and delivered a configurable benchmark harness to report throughput/commit/abort statistics.

Reddit Sentiment Analysis & Readability May 2023 – Aug 2023

Computational Data Science / NLP (GitHub)

- Built a PySpark-based ETL pipeline on SFU's computing cluster to clean and process the reddit3 dataset (2016, five subreddits), removing deleted/edited comments and adding timestamp + weekday/weekend features.
- Engineered NLP features at scale: computed sentiment scores using NLTK VADER and readability using Flesch–Kincaid Grade Level (textstat) for downstream analysis of user engagement signals (score/ups).
- Labeled comment quality via subreddit-specific score percentiles (bad/normal/good), ran ordinal logistic regression (StatsModels) and trained an MLP classifier; achieved ~66% test accuracy on ternary quality prediction (vs. 33% random baseline).

Reminder App for Dementia Patients and Caretakers Jun 2022 – Sep 2022

Mobile Development

- Developed an Android app for caretakers to remind dementia patients perform daily tasks.
- Implemented task reminder frontend with Java, Android, and Material UI, and backend with Spring Boot, and MySQL.
- Designed DB schema and deployed the database and the backend server on AWS EC2.

Autistic Spectrum Disorder Prediction Jan 2022 – May 2022

Machine Learning

- Built models to predict Autistic Spectrum Disorder based on Autism datasets of different age groups.
- Conducted qualitative data analysis and visualization with Matplotlib and Plotly, including data cleaning and preprocessing with NumPy and one-hot encoding.
- Randomly split data into 20% test and 80% training sets, trained models using Scikit-learn LR, SVM, NB, KNN, ANN, and CNN.
- Achieved an average prediction success rate greater than 95% with KNN, ANN, and CNN models, and over 90% with other models.

PUBLICATIONS

WooDowel: Electrode Isolation for Electromagnetic Shielding in Triboelectric Plywood Sensors

Proceedings of the 42nd annual ACM conference on human factors in computing systems. (CHI'24)

Yonghao Shi, **Chenzheng Li,** *Yuning Su, Xing-Dong Yang, Te-Yen Wu.*