

Shibo Wang

Toronto, ON

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[LinkedIn](#)

[Shibo Portfolio](#)

Software Engineer skilled in frontend/backend development, cloud platforms, testing, databases, and machine learning. Experienced in building full-stack frameworks and data-driven solutions.

RELEVANT WORK EXPERIENCE

Software Engineering Research Assistant (Co-op)

May 2023 - Sept 2024

Healthcare Systems R&A Inc., Mississauga, ON

Rapid Diagnostic Test (RDT) Strip Image Analyzer Desktop Software Development

Key Responsibilities:

- Scanned image files for visualization and data analysis.
- Developed noise reduction and pixel enhancement functions.
- Created backend algorithms for data interpretation and PDF report generation.
- Automated image processing workflows.
- Conducted user testing and UI adjustments.

Achievements:

1. Implemented Tkinter Canvas for precise manual image selection within the app interface.
2. Developed color difference baselines to enhance image contrast, increasing application accuracy by 50% through user feedback and A/B testing.
3. Created stable backend algorithms for accurate color band data analysis, generating user-friendly charts and downloadable reports.
4. Automated report generation using OpenCV AI, improving efficiency by quickly scanning and extracting image files.
5. Enhanced UI based on customer feedback, boosting user experience and productivity.
6. Documented processes, hosted scrum meetings, and collaborated cross-functionally.
7. Led a team of two to successfully complete the AI automated pipeline on time, demonstrating effective leadership and teamwork.

Health Prediction Mobile APP Development

Key Responsibilities:

- Conducted data exploration and visualization using the DUKECATHR dataset.
- Developed and tested machine learning models, ensuring robustness through SMOTE and cross-validation.
- Collaborated with cross-functional teams to integrate predictive models into the mobile app.

Achievement:

- Improved model reliability by 30% through advanced fine-tuning techniques, including Bayesian search hyperparameter tuning and principal component analysis (PCA).

Chronic Lower Back Pain Detection & Correction Mobile APP Development

Key Responsibilities:

- Increased 25-Landmark Model accuracy using customized data augmentation methods.
- Implemented advanced machine learning techniques to improve detection accuracy.
- Coordinated with healthcare professionals to refine detection algorithms and user interfaces.

Achievement:

- Improved keypoint prediction reliability and precision from 73% to 96% by fine-tuning the model and using dataset augmentation techniques.

Software Developer (Part-Time)

WIMTACH, Scarborough, ON

May 2024 - Oct 2024

Tree Canopy Planning Mobile App Development

Key Responsibilities:

- Developed a feature for users to select a tree planting area on a map within the app.
- Created functionality for users to edit obstacles and choose tree types.
- Designed algorithms for optimal tree placement based on planting density and soil conditions.
- Implemented features for saving and viewing tree planting locations.
- Conducted user testing and UI adjustments based on feedback.
- Deployed the software on AWS.

Achievements:

1. Integrated Google Map plug-in, enabling users to select tree planting areas and polygons on the map, enhancing interaction.
2. Utilized image analysis technology to display obstacles and critical vegetation areas, improving planning accuracy.
3. Employed the circle packing algorithm for efficient tree placement within designated areas, optimizing space usage.
4. Successfully deployed the app on AWS, including authentication and establishing a comprehensive tree database.
5. Documented project processes, hosted daily scrum meetings, and facilitated cross-functional collaboration.
6. Led a team to deliver a Minimum Viable Product (MVP) on time within four months, demonstrating effective teamwork and leadership.

AI Transcription Technology Development

Key Responsibilities:

- Utilized Silero and Rnnoise models for noise reduction and voice activity detection on iOS devices.
- Employed Vosk model to transcribe audio to text subtitles.
- Designed and implemented real-time speech processing pipelines.
- Conducted performance testing to ensure transcription accuracy and speed.

Achievement:

- Reduced Word Error Rate (WER) from 0.40 to less than 0.10 percent after implementing Silero and Rnnoise models in the iOS system, significantly improving speech-to-text transcription accuracy and reliability.

EDUCATION

Software Engineering Technology - Artificial Intelligence Advanced Diploma (Co-op)

Centennial College, Scarborough, ON

Sept 2021 - Dec 2024

GPA 4.4/4.5

KEY SKILLS

- Programming & Frameworks: C#, C++, Java, Python, JavaScript, HTML, CSS, Angular, React, React-Native, Node.js, Vue.js, .NET, Spring Boot, UI/UX
- Big Data Technologies: Apache Spark, Hadoop
- Databases: Oracle, MY-SQL, MongoDB Atlas, DynamoDB, Firebase
- Tools: Jira, Atlassian, Confluence, Git/GitHub, MS Project, Visio, PowerBI
- Cloud Platforms: AWS, Azure
- Soft Skills: Proficient in software development with strong problem-solving skills and the ability to learn quickly. Detail-oriented team player adept at following instructions and collaborating effectively.

LANGUAGES

- Fluent in Mandarin and English