# Suyeon Park

3rd-Year Computer Engineering Undergraduate Student at the University of Toronto
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## Education

**University of Toronto** Toronto, ON
*Bachelor of Applied Science in Computer Engineering + PEY* *Sept 2022 – May 2027*
**Coursework**: Algorithms and Data Structures, Operating Systems, Programming Fundamentals, Computer Organization, Software Design and Communication, Circuit Analysis, Signals and Systems

## Technical Skills

**Languages**: C/C++, Python, JavaScript, HTML/CSS, SQL, PHP, Assembly, Verilog, MATLAB
**Frameworks**: React, Node.js, Flask, PyTorch, TensorFlow, WebSockets, REST API, Pandas, NumPy
**Tools**: Linux, Git, VS Code, Docker, Azure, WordPress, Figma, AWS, Google Cloud Platform

## Experience

**IT Project Software Engineer** May 2023 – Aug 2023
*Government of Ontario, Ministry of Transportation* *Toronto, ON*
- **Led a 5-person frontend team** to develop a AI-based resume screening platform using React + Vite, improving the recruitment process through a user-friendly interface that integrated CNN model and database management
- Managed and debugged the **PHP-based website myEOIS** by delivering new features, resolving tickets, and deploying regular updates via Microsoft Azure
- Presented bi-weekly progress updates via Power BI and wrote technical documentation on tools and workflows

**Toronto Health Datathon** Feb 2023
*Google, UofT, Vector, and others* *Toronto, ON*
- Trained a **linear regression model** to predict patient race/ethnicity based on differences in SaO2 and SpO2 oxygen saturation levels over a 48-hour timeframe, enhancing accuracy in medical data analysis
- **Secured 2nd place in the hackathon** by addressing biases in AI/ML models in a medical field

**Vice-President Finance Secretary** May 2023 – Present
*University of Toronto Engineering Society Finance Committee* *Toronto, ON*
- Developed a JavaScript program that streamlines application processes, **automating documentation tasks and reducing manual screening time from 5 hours to 30 minutes**
- Facilitated discussions with 7 committee members to evaluate over 30 monthly funding applications, articulating actionable insights and documenting decisions to streamline future evaluations

## Projects

**FaceChat: Real-Time Emotion-Driven Text-to-Face Animation** July 2024 – Aug 2024
- Developed an **interactive chat interface with emotion-driven TTS and real-time facial animation**, enhancing learning through diverse stimuli beyond text and voice
- Integrated a sentiment analysis ML model, OpenAI and ElevenLabs TTS APIs, and NVIDIA Audio2Face, resolving synchronization issues and optimizing response time
- Designed UI/UX features to enhance accessibility, including text/voice input, speech-to-text, and chat log visibility

**GIS Safety Map: SafeCity** Jan 2023 – Apr 2023
- Developed a **GIS-based map in C++ with ezgl**, integrating past crime data and real-time traffic API to highlight high-risk areas, improving safety awareness and navigation efficiency
- Optimized the **A* algorithm** to achieve **93% of pathfinding searches under 100ms** and enhanced multi-route planning efficiency by 23%, with 60% of test cases yielding a Quality of Result (QoR) score below 110,000
- Implemented a safety index to create a safer route, allowing users to compare it with the fastest, optimal path

**FPGA Karaoke Program: My Heart Will Go On** Mar 2023 – Apr 2023
- Developed a karaoke program in C on FPGA with VGA display, achieving the **highest score in the class**
- Integrated the **YIN algorithm for pitch detection** of an original song and utilized a faster **zero-crossing rate method for user input**, focusing on optimization for real-time computational efficiency
- Designed real-time score calculation and lyric display for an interactive user experience