Matthew Phang

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EDUCATION

Toronto Metropolitan University — Toronto, ON
Bachelor of Science in Computer Science • *GPA: 3.76/4.33* — *Expected May 2029*
- **Website Developer:** Toronto Met Game Studios, Undergraduate Science Society of TMU

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, Go, SQL, HTML/CSS
Web Frameworks: React, Express.js, Node.js, Flask, Tailwind CSS
Cloud & Infrastructure Tools: Linux, Unix, Docker, AWS, Git
Databases: MySQL, PostgreSQL, MongoDB

EXPERIENCE

Stanford University — April 2025 – May 2025
Student Instructor — *Remote*
- Contributed to instruction for **20,000+ students** globally in Stanford's **Code in Place CS106A** course.
- Mentored **12+** students in **Python** using beginner-friendly tools like **Tkinter** and Stanford's **Karel** robot, achieving **93% attendance** in live sessions.

Learning Mode AI — June 2025 – July 2025
Software Engineer Intern — *Remote*
- Developed an **MVP** for an **AI-powered Chrome extension** by optimizing backend features across **5 Go-based microservices**, delivering summaries, chat, and quizzes to **20+** users
- Achieved **near-zero LLM context overflow errors** and **40% longer transcript inputs** and by implementing transcript truncation and splitting using a **tokenizer**.
- Reached **85% test coverage** with **30+ unit tests** using **Go, Testify, and MiniRedis**, validating core business logic.

Kids Great Minds — July 2025 – August 2025
Programming Instructor — *Richmond Hill, ON*
- Led programming classes for **100+ students** aged 8-16, teaching essential coding concepts in **Python**, **Java**, and **Scratch**.
- Created **20+ lesson plans** and hands-on coding exercises to simplify complex topics and increase interest in programming.

Expense Trend — August 2025 – Present
Software Engineer Intern — *Remote*
- Developed an **AI-powered image processing pipeline** for **app thumbnails**, enabling automated multilingual text replacement.
- Leveraged **Azure OCR**, **LaMa inpainting**, and **Python Pillow** to automate text detection and replacement in app thumbnails.

PROJECTS

ⓖ **Virtual Guitar Amp Simulator** | **MongoDB, Flask, React.js, Web Audio API**
- Developed a virtual guitar amp simulator using the **Web Audio API**, enabling real-time audio processing with customizable amp settings and pedal effects.
- Integrated a **Flask REST API** to save and load custom presets from a **MongoDB** database.
- Implemented a user sign-in system using **Firebase Authentication** and Flask, allowing users to sign in and manage their custom presets.

ⓖ **Composerdle** | **PostgreSQL, Express.js, React.js, Node.js**
- Developed a **full-stack web app** with a daily composer-guessing challenge and persistent user progress tracking.
- Developed a **REST API** to track user statistics, calculate daily averages, and maintain global totals for daily guesses, ensuring real-time data updates.
- Created a user authentication system using **JWT (JSON Web Tokens)** for secure sign-ins, allowing users to track their personal progress between sessions.