

SRIDHAR SAIRAM

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EDUCATION

University of Toronto – St. George

HBSc. in Computer Science and Mathematics

Sep 2021 – Apr 2025

Toronto, Canada

- Relevant Courses: [Concepts in Elementary Mathematics \(Math Education\)](#), [Math Problem Solving Seminar](#), [Teaching Math: The JUMP Approach](#), [Software Engineering](#), [Computers & Society](#), Math History [\(1\)](#) [\(2\)](#)

EXPERIENCE

Teaching Assistantships (TA): [Lin Alg 1](#) (× 4), [Calc 1](#) (× 3) & Private Tutoring

Sep 2020 – April 2026

University of Toronto – St. George & Virtual

Toronto, Ontario

- Held: 2-4hrs of tutorials **weekly** (involving: lessons, quizzes, Q&A, discussions) (~**40 students/hour of tutorial**), 1-2hr lectures as required (~**150 students/lecture**), 6hrs of test review sessions (self-developed material, posted on [my website](#) (**300 unique visitors/month**) for accessibility) per term (course sizes: ~**1500 students**), exam rubric creation & marking
- Elevated uncertainty into mastery, ensuring deep understanding and genuine confidence in their skills, as reflected by **15-25% grade increases**, by uncovering subtle misunderstandings and **building understanding and confidence** through step-by-step patient, empathetic, logical (**emphasizing the "why"**) and detailed instruction (Students: Gr.5 - Yr. 2 Uni.)

TA: [MAT223 - Linear Algebra 1](#)

Sep 2023 – Dec 2023

- Aided students in IBL lectures by individually re-explaining concepts & guiding students through exercises, 3 hrs per week
- Prepared **lecture for 150+ students** according to coordinator's [planned notes](#), with additional notes on [matrix multiplication intuition](#), based on the gaps I observed students had from prior lectures and questions they asked
- Developed from scratch (1.5 hrs × 3 =) **4.5 hrs** of interactive **final exam review lessons**, delivered & recorded **live on Zoom to 150+ students**, posted to be accessible for the entire course of ~1300 students, with blank, pre-filled, & live-filled versions. Feedback including: **"you explained it so clearly and I understood it now"**
- Scanned, grouped, labelled, & stored ~1300 final exams with 2 professors for marking & archival
- Graded:** 1 of the 15 questions for **644** of 1377 **final exams**, ~150 reading reflections (based on math learning articles) weekly, ~**300 writing assignments** (identifying overarching themes in linear algebra)

TA: [MAT135 - Calculus 1](#)

Jan 2024 – April 2024

- Prepared from scratch **4 hour crash course review session**, ensuring **content is self-contained** to fill in knowledge gaps, presented live on Zoom to students, and posted notes & recordings for equitable access. Feedback including: **"Your review was actually insightful"**, "the way you approached the topics revealed a few things I missed in the past"
- Held **4 hrs of tutorial per week** (~40 students per tutorial hour), providing **scaffolded & nuanced** (including supposedly trivial details) explanations of tutorial questions, and **on-the-fly lessons** additional support when required
- Held **3 virtual office hours for midterm Q&A**, answering practice questions, re-explaining concepts, etc.
- Graded:** 1 part of one of the 8 questions for all **554 final exams**
- Invigilated final exam, organized (sorted & grouped) and prepared (cut staples) test papers for efficient scanning

TA: [MAT223 - Linear Algebra 1](#)

Sep 2024 – Dec 2024

- Held **2 hrs of tutorial per week** (~40 students per tutorial hour), facilitating group discussions (solving questions, learning strategies, concept discussions), providing **on-the-fly lessons** according to students' understanding to fill in learning gaps (i.e. understanding linear independence before bases), answering assorted homework/conceptual questions
- Graded: 9 hrs (initial & regrade requests)** (2 midterms), **8 hrs** (final exam), **10 hrs** (reading & reflection assignments)
- Invigilated final exam & 2 midterms, organized (sorted & grouped) and prepared (cut staples) test papers for scanning
- Coordinated with other TAs to cover additional tutorials when required
- Held **1 hr of in-person office hours per week**, consistent inflow of new & recurring students, minimal unoccupied time

TA: [MAT223 - Linear Algebra 1](#)

Jan 2025 – April 2025

- Held **2 hrs of tutorial per week** (~40 students per tutorial hour), preparing [weekly mini lessons](#) based on students' understanding, holding **15 min quizzes** each week (**graded (with feedback) & returned by the next weekly tutorial**)
- Prepared **lecture for 150+ students** based on the gaps I observed students had from tutorials and questions they asked
- Coordinated with other TAs to cover tutorials & lecture TAing when required, coordinating tutorial quiz handover
- Graded:** physical **quizzes with written feedback (60/week)**, term test (6 hrs), final exam (16 hrs)
- Invigilated final exam & midterm, organized (sorted & grouped) and prepared (cut staples) papers for efficient scanning

TA: [MAT223 - Linear Algebra 1](#)

Sep 2025 – Dec 2025

- Held **2 hrs of tutorial per week** (~40 students per tutorial hour), walking through worked examples, administered peer-review worksheets, gave mini-lessons to students (Feedback: "**I really wish you were our prof**"), holding **15 min quizzes** each week (**graded (with feedback) & returned by the next weekly tutorial**)
- **Graded:** physical **quizzes with written feedback (60/week)** (25 hrs), term test (6 hrs), graded **~25 entire midterms** that came late due to scanning delays with **<24 hr turnover**, final exam (16 hrs)
- Created sridharsairam.ca to compile and make accessible past & current content of mine, along with my email, where I gave advice and information regarding the course and how it links with other courses/programs

TA: [MAT135 - Calculus 1](#)

Sep 2025 – Dec 2025

- Held **3 hrs of tutorial per week** (~40 students per tutorial hour), working through select tutorial questions in nuanced detail (**including supposedly trivial details**, which students appreciated), re-explained concepts, solved exercises
- Coordinated with other TAs to cover additional tutorials & have my tutorials covered when required
- **Graded:** term test (11 hrs), final exam (11 hrs)
- Invigilated final exam & midterm, organized (sorted & grouped) and prepared (cut staples) papers for efficient scanning

TA: [MAT135 - Calculus 1](#)

Jan 2026 – Apr 2026

- Held **3 hrs of tutorial per week** (~40 students per tutorial hour), working through select tutorial questions in nuanced detail (**including supposedly trivial details**, which students appreciated), re-explained concepts, solved exercises
- Gave my **email** (on [my website](#)) where I gave students study guidance, content clarification, & informal academic advising
- **Graded:** term test (8 hrs), final exam (12 hrs)
- Invigilated final exam & midterm, organized (sorted & grouped) and prepared (cut staples) papers for efficient scanning

Tutoring: [Grade 5 Math \(Ontario\)](#)

Mar 2020 – Aug 2020

- **Replaced math anxiety with math excitement over 6 months**, transforming a student who'd avoid math at all costs (excuses, physically escaping, etc.) to a student who'd excitedly finish math worksheets as soon as possible
- **Developed & taught interactive lessons** (~1 hr/day) with daily **custom-made practice worksheets** (~1 hr/day), teaching student: basic arithmetic operations & their **standard algorithms**, 10 times tables, Order of Operations (BEDMAS)
- Assessed grade **increased by > 50%**, via daily exercises, becoming faster, more confident & confident in her math skills via mastery and interactive learning techniques (saw very concretely an example of **Bloom's 2 sigma problem**)

Tutoring: (Additional) Math Syllabi/Courses

September 2024 – June 2026

- Courses Tutored: [MATA31 - Calculus 1 \(University of Toronto - Scarborough\)](#), [Linear Algebra 1 \(Western University\)](#), [IB HL Math](#), [AP Calculus BC](#), [MCR3U - Grade 11 Math \(University Prep.\) \(Ontario\)](#), [MBF3C - Grade 11 Math \(College Prep.\) \(Ontario\)](#), [MPM2D - Grade 10 Math \(Ontario\)](#),
- Held **interactive online tutoring via Zoom** that consisted of: **on-the-spot lessons** (made interactive, and using my knowledge about the course syllabus) walking through lessons given in class, **adapting partial lessons/worksheets to full lessons**, working through exercises/practice problems, teaching learning & resources finding techniques pathway & academic guidance/advice

Tutoring: Non-Math

Sep 2025 – Present

- Courses Tutored: [Computer Science Fundamentals II \(Western University\)](#), [SPH3U - Grade 11 Physics \(Ontario\)](#), [AP Computer Science A](#)
- Held **interactive online tutoring via Zoom & in-person** that consisted of: **on-the-spot lessons** (made interactive, and using my knowledge about the course syllabus) walking through lessons given in class, **live-coding** examples, **adapting partial lessons/worksheets to full lessons**, working through exercises/practice problems, teaching learning & resources finding techniques, **real life physics demonstrations**, pathway & academic guidance/advice

Additional Teaching Positions

[High School Coding Club](#)

Sep 2019 – June 2021

- **Developed Python Basics course:** 14 lesson slides ('hello world' to classes) which became the foundation for the upcoming years' Python Basics slides, **created ~5 auto graded exercises per lesson** on Repl.it Classroom
- Participated in weekly coordination & planning meetings with executive members (planning: classes, teacher supervision, additional competitions (ex: Canadian Computing Competition), etc.)

[CARobot](#)

May 2018 – Feb 2019

- Taught robotics classes CR101 & CR102, adapting to students' needs (explanation granularity, etc.)
- Developed lesson plans for the 3 courses offered that detailed: equipment to set up the class, (**saving car loading time by 50%**) & a summary of the lesson: saving time and preventing uncertainty before each class

- Organized and reworked lesson slides for better student understanding (rewording, better pictures, order of content)
- Set up robotics kits & computers for classes, transporting materials from workshop to library classroom

Mathnasium

Jan 2025 – Feb 2025

- Rotated around students in a 1:4 tutor to student ratio; walking through Mathnasium lessons (from K-12), holding & marking mini-assessments, **regulating student behaviour**, working through school homework exercises/lessons, etc.
- Helped students with homework questions no other tutor present could solve (advanced highschool math)

Cloud Automation Engineer

May 2023 – Aug 2023

TD Bank

Toronto, Ontario

- Identified and **refactored 80% of the failing** (on-prem to cloud) **data migration pipeline** (daily) tests (via **ADF**, **Databricks**, **SSMS**) and rewrote test automations in **Java** that remedied the problematic race condition, caused due to a lack of test isolation (concurrent tests using the same filespace and overriding names)
- Developed internal data comparison tools for data migration file verification using **Python** in **Databricks** notebooks with **SQLite** that ensured the copied data (of various specific formats) was equivalent to the original data
- **Sped up testing 2×** by generating dummy data (**CSV/XML**) files with **Python** for specific use-cases, allowing for faster debugging and standardizing test data generation, making debugging more deterministic

PROJECTS

Game Success Visual Data Analysis | *HTML/CSS/JavaScript, D3.js, Bootstrap, fullPage.js, git*

April 2025

- **Cleaned** and processed **dataset** from Steam (**100k entries**), to use in an **interactive bubble and frequency graphs**, encoding multi-dimensional data and using custom metrics, allowing for game retention/**loyalty analysis** over 12 genres
- **Collaborated** in a 3-person team to deploy a **story-driven data-viz analysis** website to integrate 6 visualizations by coordinating data wrangling & UI across modules, allowing for **deductions** to be made about a **game's success**
- Synthesized findings into **actionable results** for a **successful game**, involving: multiplayer features, playing to game's genre, understanding sales & timings, and how community engagement can triumph over negative indicators

High School Course Enrollment Predictor | *Python, matplotlib, numpy, $\LaTeX$, git*

Dec 2021

- Created a predictor that allows one to **graphically view** the past course enrollment of any Ontario (Canada) High School Courses and use **polynomial regression** to predict the enrollment for future years
- Created a **large-scale** object-oriented **heavily documented** Python program utilizing databases and various modules to track the course enrollment over many years, allowing for **data analysis** and further research
- Extracted, formatted, and **created clean data** from CSV files retrieved from the [Open Government Database](#)

Small Helper Scripts | *os, eyed3, shutil, random, vlc, turtle, math, pygame*

2019 – 2025

- Hangman Solver/Agent: Using a **layered probabilistic network** with **doubly linked lists** implementing **DFS** and **pruning**
- MP3 File Organizer: An object-oriented Python program to organize MP3 files based on the title, artist, (**ID3 metadata**) etc. of the song, while playing the song for the user, allowing for quick manual sorting of file between multiple folders
- Photo Sorter: A Python script that allows a user to **quickly sort a large number** of photos into a destination folders
- Analog Clock Quizzer: An interactive quiz to help **children learn** to tell time on an analog clock
- Times Tables Quizzer: An **systematic interactive quiz** with **analytics recorded and presented** for user improvement

TECHNICAL SKILLS

Certifications : [Azure Fundamentals: AZ-900](#), Data Fundamentals: DP-900 (in-progress),

Languages : Python, HTML/CSS/JS, Java, SQL, C, C++, Bash, $\LaTeX$, R, Assembly (MIPS)

Frameworks/Libraries : D3.js, Bootstrap, psycpg2, SQLite, matplotlib, numpy,

Tools : git, Azure (Databricks, Data Factory), Tableau