

# YIANG MAO

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## TECHNICAL SKILLS

**Languages:** SQL, Java, C++, PHP, Python, Haskell, Prolog  
**Software:** Eclipse, IntelliJ, PyCharm, Visual Studio, Oracle, CLion, Arduino, Xshell, WordPress

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## WORK EXPERIENCE

- CS Course Tutor**, SavvyPro Edu Inc – Remote, Canada Oct 2022-Present
- Conducted online 1-1 cs lectures for university students.
  - Interacted with students for Q&A, enhanced their understanding of course materials.
- Junior Programmer**, JOMAR Softcorp International - Vancouver, BC, Canada Sep 2019 – Mar 2020
- Added new functionalities to a Java-based software; tested, fixed, and improved existing functionalities
  - Used SQL to collect info from database and used TIBCO JasperSoft Studio to produce corresponding reports
  - Edited XML files in order to edit PDF Documents
- Instructor**, Huameng Education School – Wuhan, Hubei, China May - Jul 2017
- Taught high-school Chemistry, Physics, and Calculus, and provided 1-1 advising and support to students
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## TECHNICAL PROJECTS

- Portrait Photo Background Changer** [Python (OpenCV, Rembg), WordPress] Oct 2022 - Present
- Designed a program to cut out the portrait part from given pictures and combine the portrait part with new backgrounds to create new pictures using OpenCV and Rembg library.
  - Designing a website for the background changer which categorizes and presents background images and allows users to upload their own images and edit them online.
- Table Tennis Pitching Machine** [Arduino] Mar 2022 - Present
- Worked with mechanical engineers to develop a table tennis pitching machine.
  - Designed and programmed the operation system of the pitching machine in Arduino which allows it to change the speed, frequency, and position of the ball.
- Search Autocompletion** [Java, Haskell] Feb 2021
- Designed a program for search autocompletion in both Haskell and Java; given a prefix string and a library of previously searched terms, the program finds all possible matches in the process of typing
  - Created functions to load a library of words from a file or insert search terms by themselves
- NHL league Database** [SQL, Oracle, PHP] Jun 2019
- Created a database that stored information of teams in the NHL and wrote queries for different users (General Manager\Coach) to access and change data in the database.
  - Developed a webpage using PHP to query and present various tables in the database.
- Turing poet** [C++, Linguistic] Apr 2019
- Designed and coded a program in C++ that can produce grammatically correct sentences using templates; analyzed syntax, and then created sentences with same structures but different contents
  - Used lists and pointers to implement a mimic Turing machine to choose words for new sentences
- Autonomous robot vehicle** [Arduino, Component assembly] Mar 2019
- Built a robot vehicle that can autonomously find path in a maze by using subsumption architecture.
  - Made the robot by Arduino, photo-resistors, ultrasonic Sensors, motors, bread boards, and wires.
  - Designed and programmed the algorithm that allows the vehicle to track lines and detect walls.
- TransLink Android App** [Java, JUnit Testing, Debugging, Visual Box] Apr 2018
- Developed an Android app to check real-time bus information on a map view, where users could find stations, routes, and destinations in the map view with different icons and colors to increase clarity
  - Refreshed bus location synchronously from TransLink and wrote Junit tests to ensure complete code coverage
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## EDUCATION

**BSc (Cognitive Systems, Computational Intel & Design)** Sep 2016 – Aug 2021  
University of British Columbia, Vancouver, BC