△ ZE MING (TOMMY) XIANG

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| EDUCATION

- University of Toronto, Honors B.Sc, Computer Science Specialist　　　　**Class of 2020**

- Finished Courses - **GPA: 3.97**:
  - Enriched Introduction to the Theory of Computation
    - Class Average: 70, Final Mark: 98
  - Software Tools and System Programming
  - Programming on the Web
- Current Courses:
  - Introduction to Software Engineering
  - Algorithm Design, Analysis & Complexity
  - Natural Language Computing
  - Intro to Neural Networks and Machine Learning

| SKILLS AND QUALIFICATIONS

- Proficient in: Python, C/C++, C#, ActionScript.
- Familar with: JavaScript/QML, Java, Haxe, LaTeX.
- Have experience with: HTML, CSS, MATLAB.
- Software: Vim, Git, Qt Creator, Photoshop, Flash Professional, Unity3D, Microsoft Office

| PERSONAL PROJECTS

- (**Link**)　**Life++**　　　　2016 - present
  - Implemented rigorous time-management solution in C++, QML with automatic scheduling
  - Designed greedy algorithm to achieve real-time planning up to 365 days into the future
- (**Link**)　**TensorBuilder**　　　　2017
  - Implemented a GUI editor for TensorFlow™ in QML and JavaScript using Qt
  - Written graph-to-python compiler for easy execution
- (**Link**)　**Block Buster**　　　　2015
  - Developed cross-platform side-scrolling arcade game in ActionScript 3.0 using Adobe AIR during high school
  - 400 plays in 1 month on high school arcade machine

- (**Link**)　**ShareSchedule**　　　　2017
  - Developed vanilla JS website allowing intelligent time table planning for UofT students, with the ability to see Facebook friends' schedules
  - Written backtracking algorithm in JavaScript to automatically solve for conflict-free schedules
- (**Link**)　**Cellular**　　　　2015 - present
  - Designed and developed procedural 2D action / adventure game in Unity C# and Haxe
  - Implemented procedural generation as well as culling algorithm to support seamless map with 65536+ tiles
  - 1st place in UofT Game-Making Deathmatch 2017

| WORK EXPERIENCES

- **Research Assistant**, University of Toronto 2017
  - Assisted CS Professor with educational game design research, written report on data analysis
  - Design and developed game, constructed survey, gathered data from 20+ testers
  - Supervisor: Prof. Steve Engels

- (**Link**)　**Deadlock**　　　　2017
  - Designed and developed an educational game about programming, for research project with Steve Engels
  - Designed and implemented modular and intuitive block scripting interface and compiler in C#
  - Featured on UofT News (**Link**)

| AWARDS AND COMPETITIONS

- 1st Place - Bloomberg Codecon UofT　　　2017
- 2nd Place - Microsoft Code Competition UofT　　2017
  - Solved one of the hardest problem
- 2nd Best Accuracy - (National) USC Competition　2017
  - Developed geo-locator tool for drone mission
- 1st Overall - UofT Game-Making Deathmatch　2017
  - Best Technical Achievement Award
  - Judges recommended commercial release
- (**Link**)　Silver Medalist -
  (National) Canadian Computing Olympiad　2016
- Silver Division Winner - DMCI Programming Gala　2016
- 3rd Place - Big Data Challenge　　　2016
  - (**Link**)　Journal Published on STEM Fellowship
- School Champion -
  Canadian Open Mathematics Challenge　2015 - 2016
- Gold Medalist - Toronto Science Fair　　2015

| CLUBS AND CONTRIBUTIONS

- Clubs

- Vision Subdivision Lead of
  University of Toronto Aerospace Team:
  Aerial Robotics division　　　2016 - present
- Co-President of
  Game Design and Development Club　2016 - present
- University of Toronto Robotics Association　2016
- Founder and instructor of YMCI Game Dev Club　2015
- Lead instructor of YMCI Programming Club 2014 - 2016

- Contributions

- Numerous contributions to open source projects
  - Projects: OpenFL, Starling
- Assistant Councilor at
  Art Gallery of Ontario　　　2015 Summer
- Volunteer at YMCA　　　　2014 - 2015