Ze Ming (Tommy) Xiang

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Education

- University of Toronto, Honors B.Sc, Computer Science Specialist   **Class of 2019**

- Finished Courses - **GPA: 3.94**:
  - Enriched Introduction to the Theory of Computation
    - Class Average: 70, Final Mark: 98
  - Software Tools and System Programming
  - Software Design
- Current Courses:
  - Programming on the Web
  - 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**) **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

- (**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**) **Up from the Ground**   2013 - 2015
  - Designed and developed 2D action / adventure space shooter game in ActionScript 3.0 during high school
  - Written high-standard post-processing shaders

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

- 2nd Place - Microsoft College Code Competition   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