

# Dr. Geoff Nagy

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## Work Experience

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### **Research Engineer, Apple, Seattle, United States** – Nov. 2021 to present

- Implement iOS, macOS tools and apps with Swift, Metal, SceneKit, UIKit, SpriteKit.
- Research, develop, and ship new technologies and novel applications, both individually and on a team.
- Mentor interns and junior programmers.
- Received “exceeds expectations” on all performance criteria during all yearly evaluations.

### **Prototype Engineer, Archiact VR, Vancouver, Canada** – Oct. 2015 to Aug. 2016

- Team lead on robotic rescue research concept; evaluated robotic prototype in real USAR training location.
- Hired team of 5 engineers to develop robotic prototype; programmed using C, C++, C# .NET, OpenGL/GLSL; designed PCBs with DipTrace.

### **Sessional Instructor, University of Manitoba, Winnipeg, Canada** – Jan. 2013 to Apr. 2015

- Developed and presented own lecture material and assignments, graded exams.
- Topics ranged from introductory to advanced undergraduate CS courses.

### **Developer/Programmer, Canadian Air Force, Winnipeg, Canada** – Nov. 2009 to Dec. 2012

- Developed engaging training content in HTML, CSS, Javascript, Adobe After Effects.
- Developed custom in-house quiz authoring tools in C# .NET.

## Education

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### **PhD, Computing Science, Simon Fraser University, Canada** – Aug. 2021

- Researched and developed novel biologically-inspired drone flocking behaviours.
- Designed and constructed novel low-cost 3D-printed drone fleet (Fusion 360, DipTrace, AVR C/C++, C# .NET) to execute these behaviours in a Vicon-equipped lab space.
- Developed an application (C++, OpenGL, GLSL) to both simulate and control live fleets of drones; performed advanced statistical analysis (Python).

### **MSc, Computer Science, University of Manitoba, Canada** – Sep. 2016

- Researched the impact of novel active team management strategies in simulated teams of heterogeneous robots (C++, OpenGL) in USAR environments.

### **BSc, Computer Science, University of Manitoba, Canada** – Jan. 2013

## Select Publications (of 9)

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“Computational and Structural Advantages of Pairwise Flocking”. **Geoff Nagy**, Alex Thornton, Hangjian Ling, Guillam McIvor, Nicholas Ouellette, Richard Vaughan. *Proceedings of the 2<sup>nd</sup> IEEE International Symposium on Multi-Robot and Multi-Agent Systems*. New Brunswick, United States, 2019.

“Active Team Management Strategies for Multi-Robot Teams in Dangerous Environments”. **Geoff Nagy**, John Anderson. *Proceedings of the 30<sup>th</sup> Canadian Conference on Artificial Intelligence*. Edmonton, Canada, 2017. **Won CAIAC 2017 Best Student Paper**.

## Select Awards (of 12)

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- **NSERC CGS D** (\$35,000 per year) – May 2018
- **Third Place Tech Challenge, RoboCup (twice in 2 years)** – Jul. 2014 João Pessoa, Jul. 2013 Eindhoven

## Select Volunteering (of 7)

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- **Chair, IEEE RAS Student Activities Committee** – May 2018 to May 2020
- **Volunteer Organizer, IEEE IROS, Vancouver, Canada** – Sep. 2017