Ryan Toner

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EDUCATION

Fairfield University, Fairfield, CT — Expected Graduation May 2021

- **Bachelor of Science,** Computer Science & Mathematics - Current GPA: 3.91

WORK EXPERIENCE

Servo-Robot Artificial Intelligence Research Assistant — September 2019-Present

- Working at Fairfield University AI Research Lab with SERVO-ROBOT on developing convolutional-neural networks for industrial welding classification.

Fairfield University Engineering Technical Assistant & Entrepreneur — July 2019-Present

- Collaborating with Professor Douglas Lyon on engineering a wireless, low-latency, and cross-platform microcontroller arcade gamepad for MAME or other arcade emulators. We are using the nRF24l01 transceiver, Arduino Uno/ Leonardo, and making our own PCBs with Autodesk Eagle.
- We have launched RFLEO on Kickstarter in addition to an advertising campaign on Facebook.

Federal Aviation Administration Student Researcher — 2016-17

- Presenter, 36th Annual Digital Avionics Systems Conference (DASC), St. Petersburg, FL
- C. Yao, A. Rusu, A. Danick, R. Hingorani and R. Toner, "Aircraft conflict resolution cataloguer," 2017 IEEE/AIAA 36th Digital Avionics Systems Conference (DASC), St. Petersburg, FL, 2017, pp. 1-10, DOI: 10.1109/DASC.2017.8102101
- Collaborative research and software development, managing databases, algorithm creation and implementation

Wooster School, Danbury, CT Community Outreach and Code Educator — 2016-Present

- Launched School-Wide Open-Source initiative on GitHub
- Created and continuing multi-year project to manage custom-tailored website for school jobs and self-help system
- Managed client relationships, bug testing, system architecture, security implementation, project feature evolution, maintenance, and documentation

Personal Research Data Science and Mathematics — 2018-Present

- Currently investigating application of recurrent neural networks to solve the NP-hard 15 puzzle
- Currently investigating Symbolic Computation and Efficient Symbolic Differentiation
- A Non-Recursive Linear O(n) Approach to Symbolic Derivative Calculation

AWARDS/ RECOGNITION

Fairfield University/ Sikorsky Aircraft Co. — 2020, 2018, 2016

- Speaker on Experiential Learning, Magis Day 2020
- Role Model Speaker at Sikorsky Prize Award Banquet
- Recipient of Excellence in Mathematics and Science Sikorsky Prize

Pratt & Whitney Museum, East Hartford, CT — 2017

- Presented *Aircraft Conflict Resolution Cataloguer* at 2017 Grant Expo

NASA Connecticut Space Grant Consortium — 2017

- Student Travel Grant Recipient for *Aircraft Conflict Resolution Cataloguer* paper

Wooster School, Danbury, CT — 2017

- James S. Hammer '63 Award
- John Hart Spittle '37 Prize for Excellence in Science
- Senior Independent Study Commendation

SKILLS

Programming Languages: VB.NET, C, C++, C#, Haskell, Java, Python

Web Development: Amazon Web Services, ASP.NET & MVC, Razor, Google Apps Scripts, Google APIs, JavaScript, HTML, CSS, Bootstrap

Data Science in Python: scikit-learn, numpy, pandas, TensorFlow, keras, neural-networks

Hardware: Circuits, Autodesk Eagle, PCB Design, Arduino, Raspberry Pi, Soldering

Mobile Application Development: Xamarin.Forms, Android Studio, XAML

Databases: SQL, SQLite, SQL Server, MS Access, Oracle

IDE Experience: Proficient with NetBeans, Eclipse, Visual Studio, Spyder, Jupyter, Notepad++

Computer Science: System Architectures, Algorithms, Graph-Theory, Data Structures

Assembly: Computer Organization of MIPS Instruction Set (assembly code, RISC pipeline)

Mobile Application Development: Xamarin.Forms, Android Studio, XAML

Software Development: Agile Development Methodologies, Object-Oriented Design, UML, Git

Mathematics: Linear Algebra, Analysis, Calculus, Statistics

Other: Linux, LaTeX, Game Development, Pathfinding, Symbolic Computation, Boolean Algebra