Nathan Yan

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Education

Sep 2020 - Present **University of Washington, Paul G. Allen School (CS)**

- Direct admit to the UW CSE program, pursuing a Bachelor's degree in Computer Science

Sep 2019 - Jun 2020 **Bellevue College (Running Start)**

- GPA 4.0 (UW)
- Relevant coursework: Intro to Linear Algebra, Differential Equations

Sep 2016 - Jun 2020 **Newport High School**

- GPA 3.96 (UW)
- National Merit Finalist

Skills

- Experienced with Python, Java, C++, Node.js (React and Express), HTML/CSS. Familiar with cloud infrastructure and API development
- Familiar with PyTorch, Tensorflow and Theano frameworks
- USACO Gold Division
- Team 1st Place, TeamsCode programming contest Advanced Division, March 2019
- Team 2nd Place, PLU programming contest Advanced Division, February 2018
- Team 1st Place, PSCSTA programming contest Advanced Division, December 2017

Experience

Jul 2019 - Aug 2019 **Student at Yale Summer Program in Astrophysics,** New Haven, CT

- Researched supernovae and implemented state-of-the-art techniques in data processing for astrophysics research at Yale University using Python

Sep 2018 - Sep 2020 **Instructor at Smart Coding School,** Bellevue, WA

- Hired by Smart Coding School to teach beginner and intermediate Python courses, topics include syntax, stacks/queues, trees and programming practices

Apr 2018 - July 2018 **Frontend Developer at Bellevue Badminton Club**, Bellevue, WA

- Hired by Bellevue Badminton Club to develop a new court reservation system for their location using React.js to handle court reservation, name lookup, and admin accounts

Oct 2017 - June 2020 **Math Coach at Tyee Math Club**, Bellevue, WA

- Teach and privately tutor competition math (AMC 8/10/12, MATHCOUNTS) to classes of about 30 students at Tyee Middle School

Projects

Aug 2018 - Present **Thrust Vector Control in Model Rockets**

- Create systems for thrust vectoring and (eventual) propulsive landing at model scale
- Embedded system and hardware design of printed circuit boards
- C++ programming with Arduino and ARM processors
- 3D mechanical design using OpenSCAD and Fusion 360
- Gain understanding of college-level topics like linear algebra (quaternions/rotation matrices, basis transformations), and control theory

Oct 2017 - June 2020 **GradeBook** [https://github.com/nathan-yan/gradebook]

- Designed app for displaying grade information to students in the Bellevue School District (300+ users)
- Offers a modern UI and useful features which allow students to predict future grades and set goals for future performance in the classroom
- Made use of topics including API development, web scraping, security best practices and version control
- Originally a Flask web application in Python, eventually developed a mobile app using React Native in collaboration with 3 others
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Sept 2017 - Present **Neural Network Implementations**

- Implement deep learning systems described in research papers, including Neural Turing Machine, Deep Recurrent Attentive Writer, Deep-Q Network and Recurrent Models of Visual Attention in Theano/PyTorch/Numpy
- Create small experiments with models, like creating fractals with randomly initialized "neural networks" [nathan-yan.github.io/fractals], or growing MNIST digits with neural cellular automata [github.com/nathan-yan/mnist-neural-automata]