Jason Fan

Tufts University | jason.fan.74@gmail.com

EDUCATION

Tufts University, Medford MA *May 2017*
B.S. in Computer Science & Mathematics
Summa Cum Laude - GPA: 3.88 / 4.00
Relavant courses: *Statistcal Pattern Recognition, Computer Vision, Numerical Linear Algebra, Data Structures, Algorithms, Graphics, Visualization, Web Programming, Text Mining, Computation Theory, Abstract Algebra*

HONORS

Tufts University
· Class of 1942 Prize Scholarship - 2017

EXPERIENCE

Research Assistant at Tufts University June 2017 - present
Computational biology
· Worked on applying machine learning on computational biology problems regarding genetic interactions

Teaching Fellow at Tufts University Spring 2017
Computation Theory
· Lead and managed 25 teaching assistants for a class of 160 students taught by Prof. Ben Hescott
· Managed grading for all homework submissions

Microsoft June - September 2016 (12 weeks)
Software Development Intern, Enterprise Cloud Group, Engineering Systems *Redmond, WA*
· Implemented a service, backed by Azure DocumentDB, that allows users to launch and monitor the customization of Virtual Machines on an internal cloud service, in C#.

Teaching Assistant at Tufts University January - May 2016
Machine Structure & Assembly Language Programming (Fall 2015), Computation Theory (Spring 2016 to Fall 2017)
· Led and assisted lab sessions, and held office-hours weekly, helping students with Machine Structure problems in C in the fall of 2015.
· Held regular office-hours to help students understand questions about NP-completeness, graph-theory and proof writing in the spring of 2016.

Ab Initio Software June - August 2015 (11 weeks)
Software Development Intern *Boston, MA*
· Wrote Java code that currently ships on Ab Initio's process management and monitoring client
· Shipped, built and helped design feature that allows administrators to customize the clients dashboard
· Refactored a collection of anonymous data-structures into a type-safe and easily extensible class hierarchy
· Shipped a Package for Support feature that collected and packaged information about a monitored process.

Microsoft June - July 2013 (5 weeks)
Marketing Intern, Consumer Channels Group, Xbox Team *Hong Kong, China*
· Evaluated and categorized over two-thirds Xbox One retailer stores in Hong Kong
· Presented and participated at an Asia Pacific Region CCG Train-the-Trainer event for Xbox and Surface Teams.

PROJECTS

Towards Deep Genetic Interaction Prediction June 2017 - present
Deep learning project in PyTorch
· Developing learning algorithms to classify genetic interactions using biological network topologies

Lung Cancer detection using Deep Multi-Instance networks Spring 2017
Deep learning project in PyTorch
· Investigated and adapted Deep Multi-Instance techniques for Lung Cancer detection for the 2017 Kaggle Data Science Bowl
· Implemented efficient RGB to Grayscale conversion of popular pretrained networks (AlexNet, VGG etc.)

Ray Traced Constructive Solid Geometry Renderer Spring 2016

Computer graphics project written in C++ using OpenGL

· Devised and implemented a method to express complex boolean and set operations applied to 3D shapes

· Implemented a ray tracer that rendered photorealistic reflections, soft shadows and used recursive programming language constructs to render complex scenes.

Force Directed Edge Bundling Methods, Models, and Implementations Fall 2015

A visualization technique implemented in Java and the 'Processing' Framework/Library

· Improved and implemented a physics based, iterative method of grouping edges to simplify complex graphs.

· Collaborated with 2 other team members leading the implementation and improvement of the mathematical model that powered our solution.

Visualizing the Urbanization of the World with Wikipedia data Spring 2015

Text Mining project developed using Python, JavaScript and D3

· Parsed 60GB of Wikipedia markup to create a web application to explore when and where settlements around the world were established.

Stealth Shrooms Game - Boston Game Jam 2015 Spring 2015

· Built a hallucination simulation game using Unity and C# with a team of 2 artists and 4 programers in 2 days.

SKILLS

Languages	C/C++, Python, JavaScript, C#, LaTex, (Worked with: Java, HTML)
Frameworks	PyTorch, Node.js, MongoDB, ASP.NET Core (Worked with: SQL, OpenGL, D3)
Tools	Vim, Unix, Git & Github, Perforce, IntelliJ, Visual Studio, Powershell
Other Languages	Mandarin and Cantonese, proficient in spoken Spanish