Jared Hwang

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EDUCATION

Tufts University, Medford, MA   *Aug 2016 – May 2020*
  Bachelor of Science - Double Major Computer Science & Physics
  GPA 3.94, *summa cum laude*
  N. Hobbs Knight Prize Scholarship, Sigma Pi Sigma Honor Society, Dean's List (all semesters)

EXPERIENCE

Research Assistant, Taritree Wongjirad, Tufts University, Medford, MA   *May 2020 – Present*
  • Implement neural network with novel loss algorithm for particle-interaction classification
  • Create benchmarks to qualify results of neural network

Research Assistant, Janet Conrad, MIT Laboratory for Nuclear Science, Cambridge, MA   *Jun 2018 – Mar 2020*
  • Built, tested and benchmarked a large-scale flexible particle accelerator simulation code in Python
  • Ran high resolution simulations in parallel using particle-in-cell framework and developed diagnostic tools
  • Helped assemble and run H_2^+ beam line and beam control system

Computer Science Teaching Assistant, Tufts University, Medford, MA   *Sep 2018 – May 2020*
  • TA for COMP105 Programming Languages and COMP40 Machine Structure and Assembly Language
  • Explained concepts and course material in regular office hours
  • Co-led a weekly recitation to overview course material

Research Assistant, Anna Sajina, Tufts University, Medford, MA   *Sep 2017 – May 2018*
  • Analyzed, manipulated, and visualized large astronomical data sets using Python
  • Crossmatched and compared data from two telescopes (HerMES, SERVS)

PROJECTS

2D/3D Ising Model Simulator, Tufts University, Medford, MA   *Apr 2020*
  • Interactive Python 2D and 3D magnetic phase transition simulator
  • Implemented diagnostic tools for understanding of temperature, size etc. on magnet behavior

Avocado Consumption Data Visualization, Tufts University, Medford, MA   *Mar 2020*
  • Interactive visualization displaying avocado price and volume trends from the years 2015-2019
  • Processed datasets using Python, and implemented frontend using JavaScript D3

Tweetalyzer, Tufts University Hackathon, Medford, MA   *Oct 2018*
  • Website that displays fake celebrity tweets generated using a neural net
  • Developed neural net using Python Keras, and web API using Flask with team of four

Tony Tracker, Tufts University Hackathon, Medford, MA   *Oct 2017*
  • Crowdsourced polymorphic entity tracker designed for Tufts University campus

COURSEWORK

• Data Structures	• Algorithms	• Computation Theory	• Programming Languages
• Machine Learning	• Artificial Intelligence	• Machine Structure and Assembly Language Programming	
• Computational Physics	• Electronics	• Quantum Theory	• Quantum Information Theory

SKILLS

  Computer: Proficient in Python, C++, C, Java, JavaScript, Ruby, OCaml, MATLAB, HTML, Git, Unix
  Language: Conversational Mandarin, Conversational Japanese