Yiheng Xie

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https://yxie20.github.io/

EDUCATION

Caltech | Pasadena, CA **2023 – 2028**
• **Ph.D.** Computing and Mathematical Sciences

Brown University | Providence, RI **2018 – 2022**
• **B.Sc.** Computer Engineering, *summa cum laude* (GPA: 3.97/4.00)

SKILLS

Programming Languages:
Python, MATLAB, Java, C, Verilog, x86-64, html/css, SQL

Machine Learning:
Frameworks: Tensorflow, PyTorch
Focus areas: power systems

Cloud Computing:
AWS suite, GCP

CAD:
SolidWorks, Adobe Suite, PADS PCB, Fusion 360

Hardware Tools:
3D-printing, laser-cut, metal machine shop tools

Other Tools:
JIRA, Git, LaTeX

SAMPLE COURSEWORK

Computer Science:
Computer Systems
Computer Vision
Cybersecurity

Engineering:
Electrical Circuits
Digital IC Design (VLSI)
Embedded Microprocessors

Mathematics:
Linear Analysis
Mathematical Optimization
Probability Theory
Honors Multi. Calculus
Linear Systems Analysis

Energy Systems:
Energy and the Environment
Env. Economics and Policy
Algorithmic Game Theory

LANGUAGES

English, Chinese, Spanish

WORK EXPERIENCE

Amazon Web Services *Cloud Developer* (Providence, RI) **2021 – 2022**
- Developing a cloud-based deep-learning solution to utility providers to increase the resilience of electrical grid during extreme weather events (RI ETHOS Hub).

Unity Technologies *Deep Learning Researcher* (Tel Aviv, Israel) **2020 – 2022**
- Led deep learning research projects at Unity Digital Twin Group, developed industry-leading 3D reconstruction, inverse rendering, BRDF material estimation algorithms.

Learnable *Group Lead* (Boston, MA) **2019 – 2020**
- Led a team of 5 developers to develop a natural language processing algorithm for our industry-leading auto-grader for K-12 math and science exams.
- Product shipped in April 2020 and achieved over 99% accuracy in the 2021 Gaokao.

Auto-Intelligence *Intern* (Shanghai, China) **Summer 2018**
- Delivered an automated defect-detection solution for a manufacturing client.

RESEARCH

Netlab (Caltech, Advisor: Steven Low) **2019 – 2022**
- Deployed a campus-scale network of synchrophasors (PMUs) and controllable DERs.
- Developed a collection of production-grade software tools for real-time display, analysis, modeling, and control of energy resources.
- Deployed our software on cloud computing platforms with cybersecurity hardening.

HCRI Robotics Lab (Brown University, Advisor: Michael Littman) **2019 – 2022**
- Project 1: Teaching tasks of arbitrary complexity via natural language feedback.
- Project 2: Sample-efficient reinforcement learning.
- **Publication**: *Learning Generalizable Behavior via Visual Rewrite Rules*, first author.

Brown Visual Computing (Brown University, Advisor: Srinath Sridhar) **2020 – 2022**
- Leading review project surveying 250+ papers on an emerging trend in visual computing.
- **Publication***: Neural Fields in Visual Computing*, first author.
- **CVPR 2022 Tutorial** *Neural Fields in Visual Computing*

SERVICE AND LEADERSHIP

Diversity, Equity & Inclusion Board *Member* (Westtown School) **2018 – 2021**
- Appointed by the Head of School to serve on an advisory board of trustees, alumni and faculty members. Formulated high-level policies and initiatives at my high school.

Admissions Tour Guide (Brown University, Westtown School) **2016 – 2019**
- Gave bilingual tours to prospective families, head of program (Westtown School).
- Gave weekly tours to large groups of prospective families (Brown University).

Teaching Assistant (Brown University) **2020 – 2021**
- CSCI 2952K: Hosted office hours for the graduate-level 3D computer vision seminar.
- ENGN 0040: Hosted office hours for homework and design project support.
- ENGN 1580: Staff note-taker for the upper-level elective (Communication Systems).