Yubo Su

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EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY

B.S. in Physics, Computer Science
June 2016 | Pasadena, CA
GPA: 3.74

SKILLS

PROGRAMMING

Javascript (Node.js) • Python • C/C++
Java • Shell • CUDA • Assembly

SKILLSET

Numerical Simulation
Systems Infrastructure & Optimization
Data Management & Security

TOOLS

Matlab • Mathematica • LaTeX
MongoDB • PostgreSQL
AWS (EC2, S3, etc.) • Docker
Ansible • Jenkins • Protractor
Git • Linux

LANGUAGES

English • Chinese • French

COURSEWORK

PHYSICS

Stellar Astrophysics
Group Theory in Physics
Introduction to Particle Physics
Introduction to Solid State Physics

COMPUTER SCIENCE

Machine Learning
GPU Programming
Biomolecular Computation
Networks: Communications and Economics
Relational Databases

TEACHING

Ordinary and Partial Differential Equations (1x)
Complex Analysis (1x)
Freshman Physics Lab (4x)
C++ Language Workshop (1x)

EXPERIENCE

BLEND LABS | Software Engineer

July 2016–Present | San Francisco, CA

- Developed AWS S3 file management microservice. Implemented per-file encryption, set up load testing suite and stabilized all microservice deploys.
- Data permissioning to enable industry-first multiple accounts on single loan.
- Profiled and optimized unit tests and app deploy by parallelizing tests, improving build caching and decreasing app size. Average speed up of 2x.
- Stabilized unit and end-to-end tests, reducing failures by 3x to 99%+ stability.
- Improved scope/accessibility of data backup & restore in app.
- Node.js, Angular, Mongo, Python, Docker, Shell, Ansible, AWS services
- Career fair recruiting, phone and on-site interviewing.

RESEARCH

CALIFORNIA INSTITUTE OF TECHNOLOGY

Undergraduate Researcher (Computational Astronomy)
Jan 2015–Jun 2016 | Pasadana, CA

- Worked with Prof Sunil Golwala to quantify detectability of kinetic Sunyaev-Zel'dovich Effect with future sub-millimeter telescopes.
- Developed a procedure to remove contaminating sources from simulated 2D telescope data conforming to accuracy bounds in optimal filtering theory.
- Code at `https://github.com/yubo56/Bolocam_Source_Subtraction`.
- Signal Processing, IDL, Linux

NASA JET PROPULSION LABORATORY

Undergraduate Researcher (Solar Physics)
Jun 2014–Dec 2014 | Pasadena, CA

- Worked with Dr. Paulett Liewer to generate synthetic white light images for solar phenomena simulating Solar Probe Plus (exp. 2020) view parameters.
- AGU 2014— `https://agu.confex.com/agu/fm14/webprogram/Paper18882.html`
- Raytracing, IDL, C

CALIFORNIA INSTITUTE OF TECHNOLOGY

Undergraduate Researcher (Computational Chemistry)
Mar 2013–Aug 2013 | Pasadena, CA

- Worked with Prof William A. Goddard and Prof Jose L. Mendoza-Cortes to develop ab initio force field parameters to compute hydrogen adsorption of various COF/MOFs.
- Numerical Optimization, Monte Carlo methods

AWARDS

CALIFORNIA INSTITUTE OF TECHNOLOGY

2016	Best TA—Teaching Feedback	Among all Caltech Undergraduate and Graduate TAs. 22/24 students who responded gave perfect reviews in all categories.
2016	Outstanding Teaching Award	Nominated by students among teachers and TAs, selected by student body.
2015	NSF GRFP Honorable Mention	Proposed to study core-collapse supernovae gravitational waves using machine learning techinques.