Chiyu **Wang**

(+86) 15618699708 | ✉ wcy_james@berkeley.edu | in chiyu-wang-ucb

EDUCATION

University of California, Berkeley   *Berkeley, CA*

B.A. IN COMPUTER SCIENCE - GPA: 3.90/4.00   *Aug 2017 - Expected May 2021*

- **UM-SJTU Joint Institute, Shanghai Jiao Tong University** (UC EDUCATIONAL ABROAD PROGRAM)   *Shanghai, China*
   ELECTRICAL AND COMPUTER ENGINEERING - TERM GPA: 3.85/4.00   *Sep 2019 - Dec 2019*

RELEVANT COURSEWORK: Machine Learning(IN PROGRESS), Artificial Intelligence, Algorithms & Intractable Problems, Probability & Random Processes, Real Analysis, Data Structures, Machine Structures, Database Systems, Numerical Analysis, Information Devices & Systems, Linear Algebra

RESEARCH EXPERIENCE

The Molecular Foundry, Lawrence Berkeley National Laboratory   *Berkeley, CA*
RESEARCH ASSISTANT **SUPERVISED BY** DR. ARCHANA RAJA & DR. EDWARD BARNARD   *Feb 2020 - May 2020*
2D StackBot: Automated Assembly of Atomically Thin 2D Materials for Energy and Electronics Applications
- Wrote Python scripts to interface with hardware components on ScopeFoundry platform to control custom lab experiments, and refined its GUI.
- Automated the stacking process to identify monolayers using OpenCV and explored auto-focusing and auto-detection of monolayers by CNNs.

Key Laboratory for the Physics and Chemistry of Nanodevices, Peking University   *Beijing, China*
RESEARCH ASSISTANT **SUPERVISED BY** PROF. SHENGYONG XU   *Jun 2019 - Aug 2019*
A Helmet Device for Transforming Visual Information into Time-domain Coded Tactile Graphics (Patent)
- Designed and prototyped the electromechanical device to help the visually-impaired in navigation with a a set of coded tactile instructions.
- Analyzed degrees of mechanical stimulation on subjects' scalps by arrays of mechanical units, and mapped the locations of sensory spots.

Department of Public Health Sciences, University of Hawaii   *Manoa, Honolulu*
RESEARCH ASSISTANT **SUPERVISED BY** PROF. YUANAN LU   *Jul 2016 - Aug 2016*
- Researched on the public's health risk awareness on urban air pollution among residents living in different megacities in China.
- Analyzed data using Chi-square tests and published an article in IERPH magazine, which was the first study addressing this issue.

PROFESSIONAL EXPERIENCE

Amazon Web Services (AWS) AI   *Shanghai, China*
SOFTWARE DEVELOPMENT ENGINEER INTERN   *Oct 2020 - Present*
DGL(Deep Graph Library) - CV Team
- Develop a web-based interactive visualization toolkit to track ML metrics and render mesh objects for 3D deep learning with PyTorch3D in Flask.
- Research on 3D mesh and point cloud reconstruction from images with Graph Neural Network (GNN) models and differentible rendering.

Pci-Suntek Technology Co., Ltd.   *Guangzhou, Guangdong, China*
SOFTWARE DEVELOPMENT INTERN   *May 2018 - Jun 2018*
- Debugged the Face Recognition Terminal PCI-R6002 in C++, and annotated its input data to separate passengers from their luggage.
- Field investigated the usage scenario of PCI face-recognition turnstiles on Zhuhai Campus, Sun Yat-sen Univ. and finalized its configuration.

HIGHLIGHTED PROJECTS

Guavabot: Algorithm Optimization for an NP-Hard Tree Problem (Python)   *Apr 2019 - May 2019*
- Designed a solver that efficiently traverses a graph, finds lost bots and brings them to a source node given imperfect observations of their locations, and optimized by applying Floyd, MST, MW and FTRL algorithms using Python packages e.g. NetworkX.

Pac-Man AI: Multi-agent Reinforcement Learning (Python)   *Jan 2019 - May 2019*
- Implemented DFS, BFS, UCS and A* for multi-agent search, and Reinforcement Learning algorithms such as Q-learning in adversarial games.

Voice Controlled Car - SIXT33N (Python)   *Sep 2018 - Dec 2018*
- Built a car robot with the front-end circuit using a bandpass filter to process mic input into a TI MSP430 microcontroller, a closed-loop control system for stable driving and a voice detection algorithm on SVD, PCA and K-Mean clustering to classify 5 vocal words into different motions.

The Game of Amazons: AI Chess Game Design (Java)   *Nov 2018 - Dec 2018*
- Created a board game in Java that one plays against another or an AI using different heuristics for minimax algorithm with alpha-beta pruning.

TEACHING & MENTORING EXPERIENCE

Computer Science Mentors   *Berkeley, CA*
JUNIOR MENTOR - CS70 (DISCRETE MATHEMATICS & PROBABILITY THEORY)   *Feb 2019 - Jun 2019*
- Held weekly teaching sections and provided extra academic and social mentorship for a group of 5 students.
- Summarized essential materials into digestible mini-lectures, and created supplemental worksheets and notes.

UC Berkeley Electrical Engineering and Computer Sciences (EECS)   *Berkeley, CA*
ACADEMIC INTERN - CS61A (STRUCTURE & INTERPRETATION OF COMPUTER PROGRAMS)   *Jun 2018 - Dec 2018*
- Served as student instructor for OHs and lab sections, and tutored students in OOP, Interpreter design, etc. with Python, Scheme, and SQL.

Honors & Awards

2019	**Honors to Date**, College of Letters & Science, UC Berkeley	*Berkeley, CA*
2018	**Dean's Honors List**, College of Letters & Science, UC Berkeley	*Berkeley, CA*
2018	**4th Place**, Annual Berkeley Programming Contest	*Berkeley, CA*
2018	**3rd Place**, CS170 Guavabot Algorithm Contest	*Berkeley, CA*
2017	**Grand Prize**, Dorm Ex Machina 2.0 - Robotics @ Berkeley	*Berkeley, CA*

SKILLS & INTERESTS

Programming Languages Python, Java, SQL, C/C++, Javascript, HTML/CSS, Matlab, Scheme, Go, Assembly (RISC-V) (ORDER BY PROFICIENCY)
Frameworks & Tools PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, Git, Flask, Docker, AWS, LaTeX, JetBrains IDEs, MS VSCode
Interests & Hobbies Photography, Graphic Design (Adobe Ps/Lr/Ai), Painting, Basketball