Forrest (Zifeng) Huang

Curriculum Vitae

354 Hearst Memorial Mining Building
University of California, Berkeley
Berkeley, CA 94720
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Education

2017–present **Ph.D. Computer Science (In Progress)**, *University of California, Berkeley*, *GPA: 4.00/4.00*.
Advisor: Prof. John F. Canny

2019 **M.S. Computer Science**, *University of California, Berkeley*, *GPA: 4.00/4.00*.

2013–2017 **B.S. Computer Science with Highest Honors**, *University of Illinois at Urbana-Champaign*, *GPA: 3.97/4.00*.
Bronze Tablet Scholar: Among the top 3 percent of students in their college graduating class.
Bachelor Thesis Advisor: Prof. Ranjitha Kumar

Publications[#]

Peer-reviewed Conference Publications

2021 **Multi-modal Search for Inspirational Examples in Design**,
*Elisa Kwon, **Forrest Huang** and Kosa Goucher-Lambert*,
To Appear at the International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC '21).

2021 **UMLAUT: Debugging Deep Learning Programs using Program Structure and Model Behavior**,
*Eldon Schoop, **Forrest Huang** and Björn Hartmann*,
Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21), `https://doi.org/10.1145/3411764.3445538`.

2020 **Scones: Towards Conversational Authoring of Sketches**,
***Forrest Huang**, Eldon Schoop, David Ha and John F. Canny*,
Proceedings (Long Paper) of the 25th ACM International Conference on Intelligent User Interfaces (IUI '20), `https://doi.org/10.1145/3377325.3377485`.

2019 **Sketchforme: Composing Sketched Scenes from Text Descriptions for Interactive Applications**,
***Forrest Huang** and John F. Canny*,
Proceedings of the 32nd Annual Symposium on User Interface Software and Technology (UIST '19), `https://dl.acm.org/citation.cfm?id=3347878`.

[#] publications prior to 2018 published as Zifeng Huang

2019 **Swire: Sketch-based User Interface Retrieval**,
Forrest Huang, *John F. Canny and Jeffrey Nichols*,
Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19), `https://dl.acm.org/citation.cfm?id=3300334`.

2018 **MakerLens: What Sign-In, Reservation and Training Data Can (and Cannot) Tell You About Your Makerspace**,
Eldon Schoop, ***Forrest Huang***, *Nathan Khuu and Björn Hartmann*,
Proceedings of the 2018 International Symposium on Academic Makerspaces (ISAM '18).

2017 **ZIPT: Zero-Integration Performance Testing of Mobile App Design**,
Biplab Deka, ***Zifeng Huang***, *Chad Franzen, Jeffrey Nichols, Yang Li and Ranjitha Kumar*,
Proceedings of the 30th Annual Symposium on User Interface Software and Technology (UIST '17), `https://dl.acm.org/citation.cfm?id=3126647`.

2017 **Rico: A Mobile App Dataset for Building Data-Driven Design Applications**,
Biplab Deka, ***Zifeng Huang***, *Chad Franzen, Joshua Hibschman, Daniel Afergan, Yang Li, Jeffrey Nichols and Ranjitha Kumar*,
Proceedings of the 30th Annual Symposium on User Interface Software and Technology (UIST '17), `https://dl.acm.org/citation.cfm?id=3126594.3126651`.

2016 **ERICA: Interaction Mining Mobile Apps**,
Biplab Deka, ***Zifeng Huang*** *and Ranjitha Kumar*,
Proceedings of the 29th Annual Symposium on User Interface Software and Technology (UIST '16), `https://dl.acm.org/citation.cfm?id=2984581`.

Book Chapters

2021 **Sketch-based Creativity Support Tools using Deep Learning**,
Forrest Huang, *Eldon Schoop, David Ha, Jeffrey Nichols and John Canny*,
Artificial Intelligence for Human Computer Interaction: A Modern Approach (To Appear).

2021 **An Early Rico Retrospective: Three Years Of Uses For A Mobile App Dataset**,
Biplab Deka, Bardia Doosti, ***Forrest Huang***, *Chad Franzen, Joshua Hibschman, Daniel Afergan, Yang Li, Ranjitha Kumar, Tao Dong and Jeffrey Nichols*,
Artificial Intelligence for Human Computer Interaction: A Modern Approach (To Appear).

Journal Publications

2019 **GPU accelerated t-distributed stochastic neighbor embedding**,
David M. Chan, Roshan Rao**, ***Forrest Huang**** *and John F. Canny*,
Journal of Parallel and Distributed Computing (JPDC), `https://doi.org/10.1016/j.jpdc.2019.04.008`.

* equal contribution

Workshop Publications / Posters

2020 **SCRAM: Simple Checks for Realtime Analysis of Model Training for Non-Expert ML Programmers**,
Eldon Schoop, ***Forrest Huang*** *and Björn Hartmann*,
Late-Breaking Works of CHI '20
ICML 2020 Workshop on Human in the Loop Learning.

2018 **t-SNE-CUDA: GPU-Accelerated t-SNE and its Applications to Modern Data**,
David M. Chan, Roshan Rao*,* ***Forrest Huang**** *and John F. Canny*,
Proceedings of the 2018 High Performance Machine Learning Workshop (HPML '18) *Outstanding Paper Award* , `https://arxiv.org/abs/1807.11824`.

2015 **Ranking Designs and Users in Online Social Networks**,
Biplab Deka, Haizi Yu, Devin Ho, ***Zifeng Huang****, Jerry O. Talton and Ranjitha Kumar*,
Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '15), `https://dl.acm.org/citation.cfm?id=2702613.2732760`.

Demo

2016 **ERICA: Interaction Mining for Mobile Applications**,
Biplab Deka, ***Zifeng Huang*** *and Ranjitha Kumar*,
Demo at the 29th Annual Symposium on User Interface Software and Technology (UIST '16).

Master's Thesis

title *Deep-learning-based Machine Understanding of Sketches: Recognizing and Generating Sketches with Deep Neural Networks*

advisor Prof. John Canny

reference UC Berkeley Technical Report No. UCB/EECS-2020-13

Bachelor's Thesis

title *Efficient Capturing of User-Interface Data on Android Apps*

advisor Prof. Ranjitha Kumar

Professional Activities

2021 **Program Committee of ICCV Sketching for Human Expressivity Workshop**

2017-2020 **Reviewer for CHI, UIST, MobileHCI, TWEB, IEEE TIP**

Employment

2021 **Research Intern**, *Google LLC*,
Mountain View, CA.
Student Researcher under Research Scientist Yang Li

2018 **Student Researcher**, *Google LLC*,
Mountain View, CA.
Student Researcher under Research Scientist Jeffery Nichols

2018 **Software Engineering Intern**, *Google LLC*,
Mountain View, CA.
Software Engineering Intern under Research Scientist Jeffery Nichols

2017–present **Graduate Student Researcher**, *University of California, Berkeley*,
Berkeley, CA.
Graduate Student Researcher of Professor John Canny's Research Group

2015-2017 **Undergraduate Research Assistant**, *University of Illinois at Urbana-Champaign*,
Champaign, IL.
Research Assistant of Professor Ranjitha Kumar's Data-driven Design Group

2015 **Software Engineering Intern**, *The Climate Corporation*,
San Francisco, CA.

Scholarships, Honors, Grants and Awards

2020 **Honorable Mention, Adobe Research Fellowship**

2019–present **Google Cloud Platform Credit Award** *on research with David Ha, Research Scientist at Google Brain*

2017 **C.W. Gear Outstanding Undergraduate Researcher Award**

2016-2017 **Maxine and Yunni Pao Memorial Scholarship**

2014-2015 **Dean's List, University of Illinois at Urbana-Champaign**

Teaching

2019 **Graduate Student Instructor for CS160 User Interface Design and Development**, *University of California, Berkeley*.

2019 **Graduate Student Instructor for CS182/282A Designing, Visualizing and Understanding Deep Neural Networks**, *University of California, Berkeley*.

2017 **Grader for CS446 Machine Learning**, *University of Illinois at Urbana-Champaign*.

2014-2015 **Course Assistant for CS125 Introduction to Computer Science**,
University of Illinois at Urbana-Champaign.

Leadership

2015 **President** *Promoting Undergraduate Research in Engineering Committee at University of Illinois at Urbana-Champaign*