

## ELDON SCHOOP

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### RESEARCH INTERESTS

HCI, ML Interpretability and Explainability, Programming Tools, Augmented Reality, Digital Fabrication.

### EDUCATION

University of California at Berkeley, Berkeley, CA  
**Ph.D. Candidate in Computer Science; M.S. Computer Science, Dec 2018** 2016 - Expected 2022

University of California at Berkeley, Berkeley, CA  
**B.S. in Electrical Engineering and Computer Science** 2013 - 2016

### RESEARCH EXPERIENCE

University of California at Berkeley, Berkeley, CA  
**Graduate Student Researcher with Björn Hartmann** Aug 2016 - Present

University of California at Berkeley, Berkeley, CA  
**Undergraduate Student Researcher with Björn Hartmann** Jan 2015 - May 2016

### PUBLICATIONS

**Eldon Schoop**, Forrest Huang, Björn Hartmann. [UMLAUT: Debugging Deep Learning Programs using Program Structure and Model Behavior.](#) *CHI 2021.* 2021

**Eldon Schoop**, Forrest Huang, Björn Hartmann. [SCRAM: Simple Checks for Realtime Analysis of Model Training for Non-Expert ML Programmers.](#) *ICML 2020 Workshop on Human-in-the-Loop Learning.* (Reprint). 2020

**Eldon Schoop**, Forrest Huang, Björn Hartmann. [SCRAM: Simple Checks for Realtime Analysis of Model Training for Non-Expert ML Programmers.](#) *CHI 2020 Extended Abstracts.* 2020

Forrest Huang, **Eldon Schoop**, David Ha, John Canny. [Scones: Towards Conversational Authoring of Sketches.](#) *IUI 2020.* 2020

**Eldon Schoop**, James Smith, Björn Hartmann. [HindSight: Enhancing Spatial Awareness by Sonifying Detected Objects in Real-Time 360-Degree Video.](#) *UC Berkeley EECS Technical Report (Masters Thesis), December 2018.* 2018

**Eldon Schoop**, Forrest Huang, Nathan Khuu, Björn Hartmann. [MakerLens: What Sign-In, Reservation and Training Data Can \(and Cannot\) Tell You About Your Makerspace.](#) *ISAM 2018.* 2018

**Eldon Schoop**, James Smith, Björn Hartmann. [HindSight: Enhancing Spatial Awareness by Sonifying Detected Objects in Real-Time 360-Degree Video.](#) *CHI 2018.* 2018

**Eldon Schoop**, Chris Myers, Björn Hartmann. [MakerPass: A Multiplatform Access Control System for Academic Makerspaces.](#) *ISAM 2017 Posters.* 2017

Michelle Nguyen and **Eldon Schoop**, Mitchell Karchemsky, Valkyrie Savage, Björn Hartmann, Sean Follmer. [Drill Sergeant: Supporting Physical Construction Projects through an Ecosystem of Augmented Tools.](#) *Berkeley EECS Technical Report.* 2016

**Eldon Schoop** and Michelle Nguyen, Daniel Lim, Valkyrie Savage, Sean Follmer, Björn Hartmann. Drill Sergeant: Supporting Physical Construction Projects through an Ecosystem of Augmented Tools. *CHI 2016 Extended Abstracts*. **Best Paper, late-breaking work.**

2016

## WORK EXPERIENCE

Google LLC, Mountain View, CA

### **Student Researcher**

Research in HCI (data-driven design) and ML (interpretability) domains. Worked with the Interactive Intelligence team. Advised by Yang Li.

Jun 2021 – Present

Google LLC, Cambridge, MA

### **Research Intern**

Developed a novel algorithm and interface to identify influential visual concepts in image datasets and compare classification models on the basis of these concepts. Trained several artificially biased image classification models for evaluating this algorithm. Research in HCI and ML domains (visualization, interpretability). Worked with the People and AI Research (PAIR) team. Advised by Michael Terry.

Aug 2020 – Dec 2020

LookDeep Inc., Oakland, CA

### **Machine Learning Intern**

Prototyped and productionized several ML pipelines using state-of-the-art neural networks for vision tasks in healthcare. Developed initial technical demo and internal data visualization tools. Contributed to open source ML.

May 2019 – Aug 2019

Jacobs Institute for Design Innovation, Berkeley, CA

### **Project Lead and Principal Engineer, MakerPass**

Directing the MakerPass engineering team, developed access control system for the Jacobs Institute makerspaces and several other shops at UC Berkeley.

Sep 2014 – May 2020

InnoQuant Inc., Berkeley CA

### **Co-Founder and Chief Executive Officer**

Developed a research-backed innovation assessment. Partnered with consulting firms to drive transformational change in organizations around the globe.

Nov 2016 – Oct 2018

Yelp Inc., San Francisco, CA

### **Software Engineering Intern (Search UX)**

Project lead for internal data visualization tool to discover, evaluate, and improve user search experiences.

May 2016 – Aug 2016

Yelp Inc., San Francisco, CA

### **Software Engineering Intern (Core Web)**

Developed a tool to visualize web code profiling information, presenting line-by-line performance statistics to reduce technical debt.

Aug 2015 – Dec 2015

Zino Systems International, Los Angeles, CA

### **Founder and Technical Consultant**

Architected and implemented IT solutions for consumers and businesses.

Aug 2013 – Aug 2015

## TEACHING

University of California at Berkeley, Berkeley, CA

### **Instructor, Design Studio (14 Days, Hardware Prototyping for Transfer Students)**

Summer 2021, 2020, 2019, 2018

University of California at Berkeley, Berkeley, CA

### **Guest Lecturer, Machine Learning for Startups; Learn2Launch at Berkeley**

Spring 2020

University of California at Berkeley, Berkeley, CA

### **Graduate Student Instructor, LS 25: Responsible Design from Bits to Buildings**

Fall 2019

University of California at Berkeley, Berkeley, CA  
**Graduate Student Instructor, DES INV 190-2: Global Product Development** **Spring 2019**

University of California at Berkeley, Berkeley, CA  
**Instructor, DES INV 190E-1: Interactive Device Design** **Summer 2018**

University of California at Berkeley, Berkeley, CA  
**Graduate Student Instructor, CS160: User Interface Design** **Spring 2018**

University of California at Berkeley, Berkeley, CA  
**Instructor, T-PREP CS (1 Week, CS Bootcamp for Transfer Students)** **Aug 2015**

#### AWARDS AND HONORS

Nominated for Apple Ph.D Fellowship (1 of 5), *UC Berkeley* **2019**  
 Finalist for Snap Research Ph.D Fellowship, *Snap Inc* **2019**  
 Nominated for Microsoft Ph.D Fellowship (1 of 3), *UC Berkeley EECS* **2018**  
 Innovation by Design Award Finalist, *Fast Company Magazine* **2016**  
 Best Late-Breaking Work Award, *ACM CHI Conference* **2016**  
 Honorable Mention, *NSF Graduate Research Fellowship* **2016**  
 Warren Y. Dere Design Award, *UC Berkeley* **2015**  
 IEEE Eta Kappa Nu (HKN) Honor Society, *Mu Chapter, UC Berkeley* **2014**  
 Leadership Award Scholar, *UC Berkeley* **2013**

#### ADVISING

Imran Sekalala (Data Science BA; Economics BA) **Jun 2021 - Present**  
 Purva Gupta, Peng Gu, Sikai Yin, Zetian Xiao, Zhuoyue Wang (All CS M.Eng) **Aug 2019 - May 2020**  
 James Smith (EECS BS), now at UC Berkeley (CS PhD) **Jun 2017 - Aug 2018**

#### PROFESSIONAL ACTIVITIES

Advising startups on technical and business strategy  
 Technical Advisor, *OSAA Medical Device Innovation Collider* **Sep 2016 - Jan 2017**  
 Reviewer, *CHI, UIST, CSCW, VIS, MobileHCI. Outstanding review recognition (CHI 2019).*

#### SERVICE

President, *Berkeley CS Graduate Student Association* **Aug 2020 - Present**  
 Co-President, *Berkeley CS Graduate Student Association* **Sep 2019 - Aug 2020**  
 Super User, *CITRIS Invention Lab* **Jan 2015 - Aug 2019**  
 EECS Department Relations, Industrial Relations, *HKN Mu Chapter* **Sep 2014 - May 2016**  
 Finance Committee Member, *UC Berkeley Engineering Student Council* **Aug 2014 - Dec 2014**  
 Co-Founder and President, *LA Pierce College Robotics Team* **Dec 2010 - June 2013**

#### MEDIA COVERAGE

Woo, Kasey. CITRIS Invention Lab Superuser Spotlight: Eldon Schoop (PhD, CS). *CITRIS News*. 2020.  
 Vu, Linda. Prepping students to become Berkeley engineers. *Berkeley Engineering*. 2019.  
 Mukai, Mason. Nisum Doubles Down on Measurable Innovation in Partnership with InnoQuant. *Press Release*. 2018.  
 Brownlee, John. New To The Wood Shop? These Smart Power Tools Coach You Through It. *Fast Company*. 2016.  
 Mendoza, Maricar. Robotics tournament at Pierce College gets kids interested in technology. *LA Daily News*. 2013.