

# KEATON KRAIGER

[keatonkraiger@gmail.com](mailto:keatonkraiger@gmail.com) • (970) 631-6604 • [linkedin.com/in/keaton-kraiger](https://www.linkedin.com/in/keaton-kraiger)

## EDUCATION

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### BS in Computer Science

Expected May 2020

*Portland State University, Portland, OR*

- GPA: 3.77
- Advisor: Dr. Dan Hammerstrom

## RESEARCH INTERESTS

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I am broadly interested in artificial intelligence and its applications in computer vision, natural language processing, and reinforcement learning. My work has involved biologically-inspired models to perform object detection/recognition while capturing and maintaining object structure. Prospective future research areas include hierarchical object detection, autoencoders, semantic segmentation, visual semantic role labeling, and capturing visual relationships in images.

## RESEARCH EXPERIENCE

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### Research Assistant, Biologically Inspired Computing Lab (BICL)

Dec. 2018 - Current

*Dr. Dan Hammerstrom, Portland State University*

- Develop biologically-inspired algorithms to perform object detection
- Explore grid cell functionality in capturing object structure while maintaining position and scale invariance
- Process image datasets with grid cell model to aid in object detection and image classification
- Compare different image classifier performances, specifically convolutional neural networks and capsule networks when integrated with the grid cell model

### Undergraduate Mentee, Undergraduate Research & Mentoring Program

Nov. 2018 - May 2019

*Fariborz Maseeh College of Engineering and Computer Science, Portland State University*

- Paired with faculty mentor to conduct funded research during the winter and spring term
- Attended program workshops on developing abstracts, research proposals, research questions, research methods, and means of communicating research findings
- Gained a foundation of computer science research by reviewing scholarly articles and relevant work being conducted

## POSTER PRESENTATIONS

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K. Kraiger & D. Hammerstrom. "The Applications of Grid Cells in Computer Vision," presented at Portland State University Student Research Symposium, Portland, Oregon, 2019

K. Kraiger & D. Hammerstrom. “The Applications of Grid Cells in Computer Vision,” presented at Portland State University Undergraduate Research and Mentoring Program Research Presentation, Portland, Oregon, 2019

## WORK EXPERIENCE

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### Technical Course Student Specialist (TCSS)

Jun. 2019 - Current

*Dr. Karla Fant, Portland State University*

- Work with undergraduate computer science students during weekly homework recitation sessions on programming assignments and algorithm development
- Help facilitate Introduction to Computer Science weekly labs
- Assist professor during end of the term proficiency demonstrations

### Course Grader

Sep. 2017 - Current

*Dr. Karla Fant, Portland State University*

- Provide timely feedback and grades on students’ programming and algorithm assignments for Programming Systems

## HONORS

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Dean’s Honors three consecutive terms

Sep. 2018 - May 2019

**Cited** in footnote in published paper for web development work: [Mentor Study](#)

Aug. 2019

## PROFESSIONAL AFFILIATIONS

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Institute of Electrical and Electronics Engineers PSU Student Branch – IEEE (2019 – Current)

Center for Brain-Inspired Computing - C-BRIC (2018 - Current)

## PROFESSIONAL REFERENCES

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### Karla Fant, PhD

- Professor, Portland State University
- Department of Computer Science
- [Karlaf@pdx.edu](mailto:Karlaf@pdx.edu)

### Dan Hammerstrom, PhD

- Professor Emeritus, Portland State University
- Department of Electrical and Computer Engineering
- [Dwh@pdx.edu](mailto:Dwh@pdx.edu)

### Christof Teuscher, PhD

- Professor, Portland State University
- Department of Electrical and Computer Engineering
- [Teuscher@pdx.edu](mailto:Teuscher@pdx.edu)