# Doreen Hii

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Website: sites.uci.edu/doreenhii

## Education

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| Sept. 2023 - Present | **Ph.D.** in Cognitive Sciences (Expected June 2025) | University of California, Irvine |
| | Visual Perception Laboratory | |
| | Advisor: Dr. Zygmunt Pizlo | |
| | Computational models of human visual perception | |
| Sept. 2020 - Sept. 2023 | **M.S.** in Cognitive Neuroscience | University of California, Irvine |
| Sept. 2017 - June 2019 | **B.S.** in Cognitive Sciences (Honors) | University of California, Irvine |
| | Thesis: Using Meaning Specificity to Aid Negation Handling in Sentiment Analysis | |
| | Minor in Information and Computer Science | |
| Aug. 2015 - May 2017 | **A.A.** in Natural Sciences and Mathematics | Irvine Valley College |
| | **A.A.** in Social and Behavioral Sciences | |

## Research Experience

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| Aug. 2019 - July 2020 | **Lab Manager, Research Assistant** | University of California, Irvine |
| | Microsystems Laboratory | |
| | Advisor: Dr. Andrei Shkel | |
| | Micro-electro-mechanical (MEM) gyroscopes fabrication optimization and device testing | |
| Mar. 2017 - June 2019 | **Undergraduate Researcher** | University of California, Irvine |
| | Visual Perception Laboratory | |
| | Advisor: Dr. Zygmunt Pizlo | |
| | 3D reconstruction using symmetry | |
| | Computation of Language Laboratory | |
| | Advisor: Dr. Lisa Pearl | |
| | Negation handling in lexicon-based sentiment analysis | |
| | Microsystems Laboratory | |
| | Advisor: Dr. Andrei Shkel | |
| | Microfabrication of silicon and fused silica micro-electro-mechanical (MEM) gyroscopes | |
| Jan. 2016 - May 2017 | **Undergraduate Researcher** | Irvine Valley College |
| | Advisor: Dr. Benjamin Mis | |
| | Using single-channel ERP analysis for efficient, affordable neuroimaging | |
| | Advisor: Dr. Lan Pham | |
| | A more effective visualization of ratings | |

## Journal Publications & Conference Proceedings

### Journal Publications

1. **Doreen Hii**, Zygmunt Pizlo (in press). Combining Contour and Region for Closed Boundary Extraction of a Shape. *Frontiers in Psychology.*

2. Danmeng Wang, Mohammad Asadian, Wei Guan, **Doreen Hii**, Austin Parrish, Andrei Shkel. (31 August 2022). Effect of Metallization on Quality Factor and Noise Characteristics in Fused Silica Dual-Shell Gyroscopes. *IEEE Journal of Microelectromechanical Systems*. doi: 10.1109/JMEMS.2022.3199231. [Featured as one of the two "JMEMS RightNow Papers" in Volume 31 Issue 6 (December 2022)]

3. **Doreen Hii**, Daryosh Vatanparvar, Andrei Shkel. (11 March 2021). Optimization of Photoresist Plating Mold Fabrication for Metal Mask Patterning. *Journal of Vacuum Science and Technology B*, **39**, 022601. doi: 10.1116/6.0000879.

## Conference Publications

1. **Doreen Hii**, Zygmunt Pizlo. (August 2023). Contour Integration Using Boundary and Region Information. In *Journal of Vision*, 23(9), 4830. doi: 10.1167/jov.23.9.4830.

2. **Doreen Hii**, Zygmunt Pizlo. (December 2022). Biologically-Inspired Log-Polar Boundary Extraction Model for Noisy Colored Images. In *Journal of Vision*, 22(14), 3374. doi: 10.1167/jov.22.14.3374.

3. Danmeng Wang, Mohammad H. Asadian, **Doreen Hii**, and Andrei M. Shkel. (11 Febuary, 2022). Fused Silica Dual-Shell Gyroscope with In-Plane Actuation by Out-of-Plane Electrodes Realized using Glassblowing and Thru-Glass-Vias Fabrication. In *IEEE International Conference on Micro Electro Mechanical Systems (MEMS)*. doi: 10.1109/MEMS51670.2022.9699792.

4. Daryosh Vatanparvar, **Doreen Hii**, Andrei Shkel. (17 December 2021). Fabrication Process and Structural Characterization of Fused Silica-on-Silicon Toroidal Ring Gyroscope. In *2021 IEEE Sensors*. doi: 10.1109/SENSORS47087.2021.9639662.

## Conference Presentations

1. **Doreen Hii**, Zygmunt Pizlo. (19-24 May, 2023). Contour Integration Using Boundary and Region Information. Poster presented at the *2023 Vision Sciences Society (VSS)*.

2. **Doreen Hii**, Zygmunt Pizlo. (1-2 June, 2022). Biologically-Inspired Log-Polar Boundary Extraction Model for Noisy Colored Images. Poster presented at the *2022 Virtual Meeting of Vision Sciences Society (V-VSS)*.

3. Danmeng Wang, Mohammad H. Asadian, **Doreen Hii**, and Andrei M. Shkel. (9-13 January, 2022). Fused Silica Dual-Shell Gyroscope with In-Plane Actuation by Out-of-Plane Electrodes Realized using Glassblowing and Thru-Glass-Vias Fabrication. Talk presented at the *35th IEEE International Conference on Micro Electro Mechanical Systems*, Tokyo, Japan.

4. Daryosh Vatanparvar, **Doreen Hii**, Andrei Shkel. (31 October - 3 November 2021). Fabrication Process and Structural Characterization of Fused Silica-on-Silicon Toroidal Ring Gyroscope. Talk presented at the *IEEE SENSORS Conference 2021*, Sydney, Australia.

5. Zygmunt Pizlo, Ran Duan, **Doreen Hii**, Peng Sun. (25-29 August 2019). The Invariance and Redundancy Aspects of Symmetry. In *PERCEPTION*, **48**, 12. Talk presented at the *42nd European Conference on Visual Perception (ECVP)*, Leuven, Belgium.

6. Zygmunt Pizlo, Ran Duan, **Doreen Hii**, Peng Sun. (15-17 May 2019). Contour Integration in Real Images. Talk presented at the *2019 Computational and Mathematical Models in Vision (MODVIS)*, St. Pete Beach, FL.

7. **Doreen Hii**, Alan Yuen, Lisa Pearl. (19 May 2018). Strategies for Handling Negation in Text-Based Sentiment Analysis. Talk presented at the 2018 UCI Undergraduate Research Symposium. Irvine, CA.

8. **Doreen Hii**, Alan Yuen, Lisa Pearl. (6 April 2018). Using Meaning Specificity to Aid Negation Handling in Lexicon-Based Sentiment Analysis. Poster presented at the 2018 Southern California Natural Language Processing Symposium. Irvine, CA.

9. **Doreen Hii**, Alan Yuen, Lan Pham. (6 May 2017). A More Effective Way of Conveying Ratings. Talk presented at the 10th Annual Bay Honors Consortium's Research Symposium. Stanford, CA.

10. Marianne Chavez, Isaiah Cushman, **Doreen Hii**, Austin Sheagley, Sherin Stephen. (27-30 April, 2017). Using Single-Channel ERP Analysis for Efficient, Affordable Neuroimaging. Poster presented at the 97th WPA Annual Convention. Sacramento, CA.

11. Marianne Chavez, Isaiah Cushman, **Doreen Hii**, Austin Sheagley, Sherin Stephen. (1 April 2017). Using Single-Channel ERP Analysis for Efficient, Affordable Neuroimaging. Poster presented at the 17th Annual Honors Transfer Council of California Student Research Conference. Irvine, CA.

12. **Doreen Hii**, Alan Yuen, Lan Pham. (1 April 2017). Visual Display of Ratings: Representing Each Aspect with Simple Elements. Talk presented at the 17th Annual Honors Transfer Council of California Student Research Conference. Irvine, CA.

13. Marianne Chavez, Isaiah Cushman, **Doreen Hii**, Austin Sheagley, Sherin Stephen. (5 November 2016). Single-Channel N170 Collection: Developing Efficient, Affordable Neuroimaging Methods. Talk presented at the 2016 Irvine Valley College/Saddleback College Research Symposium. Irvine, CA. [Excellence in Research Award].

## Teaching

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| Fall 2020 - Present | Guest Lecture | University of California, Irvine |

- Human insight problem solving. (22 Sept. 2022), PSYCH 143P: Human Problem Solving
- Visual perception as cognitive inference. (11 & 13 May 2022), PSYCH 143P: Human Problem Solving

**Teaching Assistant**

- (Spring 2022, Fall 2022 & Fall 2023) PSYCH 143P: Human Problem Solving
- (Spring 2023) PSYCH 10C: Statistical Models
- (Winter 2022 & 2023) COGS 112P: Research in Perception and Psychophysics
- (Winter 2022 & 2023) COGS 112LP: Research in Perception and Psychophysics Laboratory
- (Spring 2021) PSYCH 131A / BioSci N182: Vision
- (Winter 2021) PSYCH 129: Psychology of Music
- (Fall 2020) LSCI 1: Languages of the World

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| Jan. - May 2017 | Tutor | Irvine Valley College |

- Served as a tutor for subjects including Biology, Computer Science, Mathematics, Physics, Psychology, Statistics, and Writing
- Provided technical assistance on equipment and software

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| Jan. - May 2017 | C-STEM Student Trainer | Irvine Valley College |

- Mentored award-winning 2017 IVC Integrated-Computing-STEM team
- Provided technical support and software troubleshooting

## Mentoring

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| Research Projects | **Co-advisor for Undergraduate Research Project** |

Long Ong, Doreen Hii, Virginia Richards. (21 May, 2022). Threshold for Pitch Discrimination of Complex Tones Explained by Harmonic Numbers. Poster presented at the *29th UCI Annual Undergraduate Research Symposium*.

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| Certificates | QPR (Question, Persuade, Refer) Suicide Prevention Training. UCI Counseling Center. Mar. 2023. |

Certificate of Teaching Excellence. UCI Division of Teaching Excellence & Innovation. Oct. 2022.
Mentoring Excellence Certificate Program. UCI Graduate Division. Feb. 2022.
UC Davis C-STEM (Computing-STEM) Teacher Training. Barobo Linkbot. Jan. 2017.

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| Development Program | **Universities Studies 390X (Jan. - Dec. 2023)** |

One year teaching-related professional development series with more than 100 hours of pedagogical training

## Fellowships & Awards

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| 2023 | **Pedagogical Fellow** | University of California, Irvine |

Competitive fellowship awarded to promising future faculty by the Division of Teaching Excellence and Innovation

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| 2021 | **Social Science Communication Fellowship** | University of California, Irvine |

Acknowledgement of outstanding scientific communication skills and promising abilities as a future leader and mentor

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| 2021 | **Associated Graduate Students Conference Grant Award** | University of California, Irvine |

Travel grants to increase the participation in academic conferences of people from diverse backgrounds, including those from underrepresented groups

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| 2020 | **Minority Serving Institution Enhancement Fellowship** | University of California, Irvine |

Fellowship awarded to high achieving college graduates to advance inclusive excellence in graduate education at UCI

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| 2017-2019 | **UCI Regents' Scholarship** | University of California, Irvine |

The most distinguished merit scholarship awarded to highly selective outstanding students based upon academic achievements, significant accomplishments and leadership

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| 2018 | **Educational Enhancement Scholarship** | University of California, Irvine |

Scholarship to support academic engagement outside of classrooms to enrich the education experience of UCI undergraduate majors in the School of Social Sciences

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| 2018 | **UROP Honorary Fellowship** | University of California, Irvine |

Merit-based scholarship awarded to undergraduate students pursuing independent research or creative work

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| 2016 | **Excellence in Research Award** | Irvine Valley College/Saddleback College Research Symposium |

Award presented for research abstract titled "Single-Channel N170 Collection: Developing Efficient, Affordable Neuroimaging Methods"

## Societies

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| June 2022 | Vision Sciences Society |
| June 2021 | Society for Mathematical Psychology |
| May 2019 | Phi Beta Kappa Honor Society |
| Sept. 2018 | Golden Key International Honour Society |
| Sept. 2017 | Campuswide Honors Collegium at University of California, Irvine |
| Mar. 2017 | Honors Program at Irvine Valley College |

## Professional Services

**Sept. 2022 - Present** — **UCI Department of Cognitive Sciences Graduate Student Liaison**

- Facilitated in faculty recruitment interview (5 faculty candidates)
- Coordinated and delivered two prospective graduate student recruitment events
- Organized quarterly departmental social and networking events

**Jan. 2023 - Sept. 2023** — **UCI Teaching Assistant Professional Development Program (TAPDP) Trainer**

- Designed eight course modules for a campuswide mandatory teaching assistant training program
- Co-led a two-day training program and facilitated active learning activities (70 participants)

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| Sept. 2021 - Nov. 2021 | **Grant Writing Tutor and Workshop Facilitator** |

- Team leader for four prestigious awards grant-writing workshops: Ford Foundation Pre-Doctoral Fellowship Program, and NSF Graduate Research Fellowship Program (GRFP)
- Edited research and personal statements, analyzed proposals in accordance to program requirements
- Mentored winners of the 2023 Ford Foundation Fellowship Programs and the 2021 Ford Foundation Fellowships Honorable Mention

## Languages

Artificial: Python, MATLAB, C++, LaTeX

Natural: English, Mandarin, Malay

## References

Professor Zygmunt Pizlo
Falmagne Endowed Chair of Department of Cognitive Sciences, University of California, Irvine
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Professor Virginia Richards
Department of Cognitive Sciences, University of California, Irvine
Email: v.m.richards@uci.edu

Professor Andrei Shkel
Department of Mechanical and Aerospace Engineering, University of California, Irvine
Email: ashkel@uci.edu

Professor Lisa Pearl
Chair of Department of Language Science, University of California, Irvine
Email: lpearl@uci.edu

Dr. Benjamin Mis
Lecturer, Department of Language Science, University of California, Irvine
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