

# Paras Vora

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## Education & Training

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<b>Washington University in St. Louis</b> <i>BS, Biomedical Engineering and Computer Science</i>	<b>St. Louis, MO</b> Aug. 2011–May 2015
<b>University of Kentucky College of Medicine</b> <i>MD</i>	<b>Lexington, KY</b> Jul. 2015–May 2020
<b>University of Kentucky Department of Internal Medicine</b> <i>Internship</i>	<b>Lexington, KY</b> Jul. 2020–Jun. 2021
<b>University of Kentucky Department of Ophthalmology and Visual Sciences</b> <i>Residency</i>	<b>Lexington, KY</b> Jul. 2021–Exp. Jul. 2024

## Honors & Awards

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<b>Travel Grant</b>   "Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy" <i>ARVO 2020   Dr. Eric Higgins</i>	<b>Baltimore, MD</b> April 2020
<b>Development and Innovation Award</b>   "Real-Time Stereoscopic Slit Lamp Videography" <i>University of Kentucky Global Ophthalmology   Dr. Eric Higgins</i>	<b>Lexington, KY</b> April 2019
<b>Best Poster Award</b>   "Using Artificial Intelligence to Facilitate Eye Disease Detection" <i>Markey Cancer Center Research Day   Dr. Romulo Albuquerque</i> <i>Clinical and Translational Science - Graduate Students Section</i>	<b>Lexington, KY</b> May 2018
<b>Outstanding Leadership &amp; Community Service Award</b>   University of Kentucky <i>Salvation Army Clinic</i>	<b>Lexington, KY</b> Apr. 2017

## Research & Intellectual Contributions

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Research Projects.....	
<b>Student Researcher</b> <i>Advisor: Eric Higgins, MD, University of Kentucky</i> <i>Department of Ophthalmology and Visual Sciences</i> <b>Project: Real-Time Stereoscopic Slit Lamp Videography</b>	<b>Lexington, KY</b> Apr. 2019–Present
<b>Student Researcher</b> <i>Advisor: Eric Higgins, MD, University of Kentucky</i> <i>Department of Ophthalmology and Visual Sciences</i> <b>Project: Teaching Ophthalmology in 3D/VR</b>	<b>Lexington, KY</b> Apr. 2019–Jun. 2020
<b>Student Researcher</b> <i>Advisor: Eric Higgins, MD, University of Kentucky</i> <i>Department of Ophthalmology and Visual Sciences</i> <b>Project: Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy</b>	<b>Lexington, KY</b> Dec. 2019–Jun. 2020
<b>NIH TL1 Research Trainee</b> <i>Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky</i> <i>Department of Ophthalmology and Visual Sciences</i> <b>Project: 3D-Printed Transilluminating Scleral Depressor for Vitrectomy Surgery</b>	<b>Lexington, KY</b> Jun. 2018

NIH TL1 Research Trainee **Lexington, KY**  
*Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky* Jun. 2017–Jun. 2019  
*Department of Ophthalmology and Visual Sciences*  
**Project: Non-Contrast Retinal Video Processing to Assess Retinal and Choroidal Perfusion**

NIH TL1 Research Trainee **Lexington, KY**  
*Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky* Aug. 2017–Jun. 2018  
*Department of Ophthalmology and Visual Sciences*  
**Project: Development of Dry Eye Syndrome and Corneal Sensitivity after Vitreoretinal Surgery**

Researcher **St. Louis, MO**  
*Advisors: Jennifer Silva, MD and Jonathan Silva, PhD* May 2016–Aug. 2016  
*Washington University School of Medicine, Department of Pediatric Cardiology*  
*Washington University in St. Louis, Department of Biomedical Engineering*  
**Project: Augmented Reality Applications for Cardiac Catheterization Procedures**

Student Researcher, Research in Surgery Elective **Lexington, KY**  
*Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky* Jan. 2016–Jun. 2016  
*Department of Ophthalmology and Visual Sciences*  
**Project: Conditional Genetic Knock-out in Trigeminal Ganglia Following Corneal Nerve Injury**

Student Researcher **St. Louis, MO**  
*Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine* August 2013–May 2014  
*Division of Bone and Mineral Diseases*  
**Project: Effect of Low Dose Hydrogen Peroxide on Bone Turnover**

Summer Undergraduate Research Fellow **St. Louis, MO**  
*Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine* May 2013–August 2013  
*Division of Bone and Mineral Diseases*  
**Project: The Role of TGF-Beta in RANKL-Induced Osteoclastogenesis**

Student Researcher **St. Louis, MO**  
*Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine* Aug. 2012–May 2013  
*Division of Bone and Mineral Diseases*  
**Project: Effect of IAP Antagonists on Bone Turnover**

Summer Research Fellow **Owensboro, KY**  
*Advisor: Uma Sankar, PhD, University of Louisville* May 2012–Aug. 2012  
**Project: Lentiviral Cloning of GFER in Cancer Cell Lines**

Peer-Reviewed Publications.....

- [1] J. Cho, N. Bell, G. Botzet, **P. Vora**, B. J. Fowler, R. Donahue, H. Bush, B. K. Taylor, and R. J. C. Albuquerque. "Latent Sensitization in a Mouse Model of Ocular Neuropathic Pain". In: *Translational Vision Science & Technology* 8.2 (Mar. 2019), pp. 6–6. issn: 2164-2591.
- [2] C. Yang, J. L. Davis, R. Zeng, **P. Vora**, X. Su, L. I. Collins, S. Vangveravong, R. H. Mach, D. Piwnica-Worms, K. N. Weilbaecher, R. Faccio, and D. V. Novack. "Antagonism of Inhibitor of Apoptosis Proteins Increases Bone Metastasis via Unexpected Osteoclast Activation". In: *Cancer Discovery* (2012). issn: 2159-8274.

Abstract Presentations.....

- [1] **P. Vora** and E. Higgins. "Inexpensive Deep Learning for Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Baltimore, MD, June 2020.
- [2] N. Fowler, R. Albuquerque, J. Cho, N. Bell, **P. Vora**, and G. Botzet. "Naltrexone as a Diagnostic Tool in Ocular Neuropathic Pain". In: *Journal of Clinical and Translational Science* 3.s1 (Mar. 2019), pp. 16–17.
- [3] **P. Vora** and R. J. Albuquerque. "Using Artificial Intelligence to Facilitate Eye Disease Detection". In: *Markey Cancer Center Research Day*. Lexington, Kentucky, May 2018.

- [4] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Visualizing Retinal and Choroidal Blood Flow Noninvasively". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Honolulu, Hawaii, May 2018.
- [5] R. Albuquerque, J. Cho, N. Bell, G. Botzet, **P. Vora**, and B. Taylor. "Peripheral Latent Sensitization Masks Chronic Ocular Pain". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Honolulu, Hawaii, May 2018.
- [6] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Optimizing a technique for visualizing retinal and choroidal blood flow noninvasively". In: *Journal of Clinical and Translational Science* 2.S1 (Apr. 2018), pp. 22–23.
- [7] R. Patel, **P. Vora**, N. Bell, J. Cho, C. Williams, and R. Albuquerque. "Development of Dry Eye Symptoms and Corneal Sensitivity after Ocular Surgeries". In: *13th Annual Center for Clinical and Translational Science Spring Conference*. Lexington, Kentucky, Apr. 2018.
- [8] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Non-Contrast Retinal Video Processing to Reveal Hidden Changes". In: *AOA Groves Memorial Student Research Symposium*. Lexington, Kentucky, Mar. 2018.
- [9] **P. Vora** and R. Albuquerque. "Eulerian Video Magnification: A Novel Approach to Assess Choroidal Blood Flow". In: *12th Annual Center for Clinical and Translational Science Spring Conference*. Lexington, Kentucky, Mar. 2017.

Oral Presentations.....

- [1] **P. Vora**. "Visualizing Retinal Blood Flow Noninvasively". 13th Annual Center for Clinical and Translational Science Spring Conference. Apr. 2018.

Research Certification.....

**University of Kentucky Collaborative Institutional Training Initiative**

GCP for Clinical Trials Involving Medical Devices, Biomedical Investigators and Key Personnel      Jun. 2017–Present

**Funding**

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**UK Global Ophthalmology Development & Innovation Grant**      Apr. 2019–Present

*"Real-Time Stereoscopic Slit Lamp Videography"*

**NIH TL1 Predoctoral Clinical Research Training Fellowship**      Jun. 2017–Jun. 2018

*"Novel Application of Eulerian Video Magnification for Assessment of Choroidal Perfusion"*

**UK Center for Clinical and Translational Science Small Grant**      Oct. 2017–Oct. 2018

*"Retinal Video Processing for Non-Contrast Assessment of Retinal and Choroidal Perfusion"*

**Washington University Summer Undergraduate Research Fellowship**      May 2013–Aug. 2013

*Howard Hughes Medical Institute - "Role of TGF-Beta in RANKL-Induced Osteoclastogenesis"*

**Patents**

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**Application:** [US11202589B2](#) - "System and Method for Assessment of Retinal and Choroidal Blood Flow Noninvasively Using Color Amplification," granted December 21, 2021

**Consulting Activities**

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**Igneous, LLC**

*Co-Founder*

Providing technical expertise for a software algorithm to assess retinal and choroidal tissue perfusion

**Lexington, KY**

*Oct 2017–Present*

## Professional Activities, Public Service & Professional Development

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### Memberships.....

**Association for Research in Vision and Ophthalmology:** Member 2017–Present

**American Medical Association:** Member and Former Delegate 2015–Present

**Lexington Medical Society:** Member 2015–Present

### Leadership & Service.....

**Ophthalmology Interest Group Executive Board** Lexington, KY

*Volunteer Coordinator* May 2019– May 2020

Managed medical student volunteers, attendings, and residents at the Salvation Army Ophthalmology Clinic.

**Ophthalmology Interest Group Executive Board** Lexington, KY

*President* May 2017– Jun. 2018

Formed a free student-run ophthalmology clinic at the Lexington Salvation Army. Featured articles:

- o UK Healthcare Blog: <https://1n.pm/Do7GF>

**Ophthalmology Interest Group Executive Board** Lexington, KY

*Vice President* May 2016–May 2017

Organized informational career and specialty meetings with various ophthalmologists

**Salvation Army Student Run Clinic** Lexington, KY

*Volunteer* Jan. 2016–May 2020

Helping provide free medical care for Lexington’s indigent populations

**Salvation Army Student Run Clinic** Lexington, KY

*Technology Officer* Jun. 2016–Jun. 2017

Maintained and improved the clinic website, upgraded computers and software to improve patient documentation

**Relay For Life Executive Steering Committee** St. Louis, MO

2013-2014: *Co-Chair*; 2014-2015: *Communications Chair* May 2013–May 2015

Planned and implemented the annual Relay For Life event on Washington University’s campus, helping raise over \$600,000 to support cancer research, treatment, and awareness

## Teaching Experience

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**Mentor, Neuroscience Course** Lexington, KY

*University of Kentucky College of Medicine* Feb. 2017–May 2017

Held weekly one-on-one meetings in the Neuroscience course attended by all first year medical students

## Other Creative Activity

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**Machine Learning Final Project** 2017–2018

*University of Kentucky Department of Computer Science*

For the Special Topics in Artificial Intelligence course. Implemented an active-learning based software tool in for training a machine learning model to grade diabetic retinopathy from fundus images

**Orijinz Words & Phrases** 2018–Present

*Entspire, LLC*

Developed an iOS and Android game based on the original card game. Read the origin and try to guess the matching word or phrase. View the game here: <https://apps.apple.com/us/app/orijinz/id1481023099>

## Interests

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**Travel Photography:** View my photos at <https://goo.gl/photos/Xfr3W8DyZ1yfCSRSA>

**Other Interests:** Tennis, coffee, computers/current technology, microelectronics