

BIOGRAPHICAL SKETCH

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Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: **Naveen Karthik**

eRA COMMONS USER NAME (credential, e.g., agency login): N/A

POSITION TITLE: Heed Fellowship

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
Case Western Reserve University, Cleveland, Ohio	BA	08/2015	05/2018	Psychology
Case Western Reserve University, Cleveland, Ohio	MD	07/2019	05/2023	Medicine
Duke Department of Ophthalmology, Durham, North Carolina	Residency	06/2023	06/2027 (Expected)	Ophthalmology

A. Personal Statement

I have developed a strong interest in imaging and clinical outcomes research since my undergraduate training. I first worked with Dr. Chirag Shah during my undergraduate years in the Department of Radiation Oncology at Cleveland Clinic, where I pursued clinical outcomes research in breast cancer and sarcomas. After completing my undergraduate studies, I continued clinical research by pursuing a research position at the Cleveland Clinic Uveitis Imaging Laboratory with Drs. Sunil Srivastava and Sumit Sharma. During this year, I worked on clinical and imaging outcomes projects involving patients with retinal and uveitic conditions. This work greatly fascinated me and motivated me to pursue additional projects in the lab during medical school. I also developed an interest in health services research during medical school and pursued projects in medical and patient education, as well as telehealth services for vision-related conditions, with teams at the University of Michigan, Corewell Health/Beaumont, and Case Western Reserve University. I then sought research opportunities in imaging and health services during my ophthalmology residency at Duke Eye Center. I worked with Dr. Fekrat on imaging outcomes in patients with neurodegenerative conditions, including traumatic brain injury and post-traumatic stress disorder. I also worked with Dr. Grewal, investigating clinical and imaging outcomes in patients with uveitic conditions. Additionally, I collaborated with Dr. Rosdahl on a project examining the accessibility of online websites providing glaucoma patient education for individuals with low vision. I am currently pursuing my interests in imaging research through a longitudinal study of optical coherence tomography findings in patients with autoimmune retinopathy. I recently received the inaugural American Uveitis Society Spring Meeting Travel Grant to present this work at the podium.

B. Positions, Scientific Appointments and Honors**Positions and Scientific Appointments**

2026-Present Incoming Co-Chief Resident, Duke Ophthalmology Residency Program
2026 AAO Advocacy Ambassador at Mid-Year Forum
2024-2025 Duke Medical Education Leadership Track
2021-2022 Co-Leader, Ophthalmology Interest Group, CWRU School of Medicine
2020-2023 Outreach Committee Co-Chair, Student Run Health Clinic, CWRU School of Medicine

Honors

2026 American Uveitis Society Spring Meeting Travel Grant
2023 CWRU School of Medicine Honors with Distinction in Research
2022 Graduate Student Council Professional Development Fund
2022 American Society of Retina Specialists JVRD Distinguished Contributor Award Recipient
2020 Daniel Summer Medical Student Research Fellowship
2015-2018 Dean's High Honors Lists
2018 John Schoff Millis Award for Outstanding Senior at CWRU
2017 Outstanding Junior Award of CWRU College of Arts and Sciences
2017 Phi Beta Kappa Society

C. Contributions to Science

1. Undergraduate Career: My interest in clinical research first started while working in the radiation oncology department at Cleveland Clinic under Dr. Chirag Shah. I was actively involved in clinical research looking at outcomes in patients with breast cancer and sarcomas. The work performed in this lab resulted in several publications and national presentations.

A. Peer Reviewed Articles

- I. **Karthik, N.**, Ward, M.C., Juloori, A., Scott, J., Mesko, N., and Shah, C. "Factors Associated With Acute and Chronic Wound Complications in Patients With Soft Tissue Sarcoma With Long-term Follow-up" *American Journal of Clinical Oncology*. October, 2018. PMID: 29315173.
- II. Balagamwala, E.H., Manyam, B.V., Leyrer, C.M., **Karthik N.**, et al. "Most patients are eligible for an alternative to conventional whole breast irradiation for early-stage breast cancer: A National Cancer Database Analysis" *Breast Journal*. May 20th, 2018. PMID: 29781235.
- III. Shah, C., Smile, T.D., **Karthik, N.**, Persia, S., Stephans, K., and Videtic, G.M. "Lung Cancer Radiotherapy: Defining Optimal Treatment Strategies" *Applied Radiation Oncology*. December 12th, 2016.
- IV. Smile, T.D., **Karthik, N.**, Reilly, K., et al. "Accelerated partial-breast irradiation: An emerging standard of Care" *Applied Radiation Oncology*. September 12th, 2016.
- V. Smile, T.D., **Karthik, N.**, and Shah, C. "Soft-tissue sarcoma of the breast following breast-conserving surgery" *Applied Radiation Oncology*. September 12th, 2016.

B. Oral Presentations

- I. **Karthik, N.**, Ward, M.C., Juloori, A., Scott, J., Mesko, N., and Shah, C. "Factors Associated With Acute and Chronic Wound Complications in Patients With Soft Tissue Sarcoma With Long-term Follow-up" *American Society for Radiation Oncology*; San Diego, CA (2017). (Oral presentation delivered by N. Karthik)

2. Medical School Career: After completing my undergraduate studies, I pursued a year of clinical research with Drs. Sunil Srivastava and Sumit Sharma at the Cleveland Clinic Cole Eye Institute. Our research focused on clinical and imaging outcomes in patients with retinal and uveitic conditions. I continued this work into medical school. During this time, I also developed an interest in health services research. I pursued projects on telehealth and medical and patient education. These research endeavors led to several published manuscripts and presentations at national meetings.

A. Peer Reviewed Articles

- I. **Karthik N**, Srivastava SK, Gans R, Baynes K, Fisher E, Chen C, Kaiser PK, Venkat A, Lowder CY, Sharma S. "Semi-Automated Analysis of Anterior Chamber Inflammation by Spectral-

Domain Optical Coherence Tomography in Cataract Surgery Patients” Ocular Immunology and Inflammation. September 3rd, 2025. Epub ahead of print. PMID: 40900175.

- II. **Karthik N**, Sharma S. “Vitamin A deficiency masquerading as cancer-associated retinopathy” Canadian Journal of Ophthalmology. April 5th, 2025. Epub ahead of print. PMID: 40158528.
- III. Venkat, A.G., Binkley, E., Srivastava, S., **Karthik, N.**, and Singh, A. “Immunotherapy-Resistant Vitreoretinal Metastatic Melanoma” Ocular Oncology and Pathology. March, 2021. PMID: 33796519.
- IV. **Karthik N**, Greenfield M, Otteson T. “The perceived impact of curricular and non-curricular factors on specialty interests and choice during medical school at a single center in the United States” BMC Medical Education. October 6th, 2023. PMID: 37803398; PMCID: PMC10559574.
- V. **Karthik, N.**, Barekatain, K., Vu, H, Wu, D.T.Y., Ehrlich, J.E. “A Readability Comparison of Online Spanish and English Patient Education Materials about Vision and Eye Health” Ophthalmic Epidemiology. April 8th, 2021. PMID: 33832394.
- VI. **Karthik N.**, Shields R.A., Brown M.M., Aoun M., Wolfe J.D., Drenser K.A., Capone A., Williams G.A. “Interest in Telehealth Among Patients With Chronic Retinal Conditions” Journal of VitreoRetinal Diseases. March 31st, 2021. PMID: 37008704; PMCID: PMC9976128.
- VII. **Karthik, N.**, Adam, C., and Lin, X. “Valsalva Choroidopathy: A Rare Manifestation of Acutely Elevated Venous Pressure” Ophthalmology. December, 2020. PMID: 33222777.
- VIII. Venkat, A.G., Abraham, J.R., Bessette, A., **Karthik, N.**, et al. “A Case Report of Chronic Endophthalmitis Secondary to Aquamicrobium Terrae” Retinal Cases and Brief Reports. April 28th, 2020. PMID: 32349062.
- IX. Venkat, A.G., **Karthik, N.**, Lowe, A., and Sharma, S. “Branch Retinal Artery Occlusion Following Intravitreal Injection of Methotrexate for the Treatment of Primary Vitreoretinal Lymphoma” Journal of VitreoRetinal Diseases. September 10th, 2019.
- X. Venkat, A.G., Arepalli, S., Sharma, S., **Karthik, N.**, et al. “Local therapy for cancer therapy-associated uveitis: a case series and review of the literature” British Journal of Ophthalmology. August 13th, 2019. PMID: 31409649.

B. Oral Presentations

- I. **Karthik, N.**, Kaakour, A., Sharma, S., Baynes, K., and Srivastava, S. “Incidence of Cystoid Macular Edema after Treatment of Postoperative Endophthalmitis” The Association for Research in Vision and Ophthalmology; New Orleans, LA (2023). (Oral presentation delivered by N. Karthik)
- II. Srivastava, S.K., **Karthik, N.**, Kolesnitchenko, V., et al. “The Impact of Gauge Size, Surgical Volume, and Cutter Probe Design on Surgical Efficiency” The American Society of Retina Specialists; Chicago, IL (2019). (Oral presentation delivered by Dr. Srivastava)

C. Poster Presentations

- I. **Karthik, N.**, Sharma, S., Gans, R. Baynes, K., Fisher, E., Chen, C., Kaiser, P.K., Venkat, A., Lowder, C.Y., Srivastava, S.K. “Effects of Iris Pigmentation on Degree of Anterior Chamber Inflammation after Cataract Surgery using Automated Analysis by Spectral Domain Optical Coherence Tomography” The Association for Research in Vision and Ophthalmology; Denver, CO (2022). (Poster presented by N. Karthik)
- II. Chen, C., Sharma, S., Venkat, A., Baynes, K., Fisher, E., Burton, D., Deaner, J., Ramos, M., **Karthik, N.**, et al. “Automated Detection of Inflammatory Activity in Sarcoid Uveitis and Birdshot Chorioretinopathy Patients Using Optical Coherence Tomography and Fluorescein Angiography” The Association for Research in Vision and Ophthalmology; Virtual (2021). (Poster presented by C. Chen)
- III. Barekatain, K., Sharma, S., Baynes, K., Chen, C., Bhangu, J., **Karthik, N.**, et al. “Impact of Anti-VEG therapy on Swept Source OCTA measurements in Diabetic Retinopathy” The Association for Research in Vision and Ophthalmology; Virtual (2021). (Poster presented by K. Barekatain)
- IV. **Karthik, N.**, Kolesnitchenko, V., Srivastava, S.K. “Evaluating Surgical Efficiency Measures of Hypersonic Vitrectomy Cutters and Guillotine Cutters” The American Society of Retina Specialists; Virtual (2020). (Poster presented by N. Karthik)
- V. **Karthik, N.**, Kolesnitchenko, V., Cummings-Kralik, R., McCary, B., Srivastava, S.K. “Evaluating Ophthalmic Surgical Efficiency through the Stellaris® Platform: The Impact of Surgeon Volume and Gauge Size on Pars Plana Vitrectomy” The Association for Research in Vision and Ophthalmology; Vancouver, BC (2019). (Poster presented by N. Karthik)

- VI. Venkat, A., Arepalli, S., Sharma, S., **Karthik, N.**, Lowder, C., Srivastava, S.K. “Local Therapy for Cancer Immunotherapy-Associated Uveitis” The Association for Research in Vision and Ophthalmology; Vancouver, BC (2019). (Poster presented by Dr. Venkat)
- VII. Sood, A., Sharma, S., Baynes, K., Fisher, E., **Karthik, N.**, Welsh, J., Balascoe, A., Lowder, C., Srivastava, S. “Automated Quantification of vascular leakage in Ultra-Widefield Fluorescein Angiography in patients treated with Fluocinolone Acetonide Implant 0.59mg” The Association for Research in Vision and Ophthalmology; Vancouver, BC (2019). (Poster presented by Dr. Sood)

3. Residency Career: During ophthalmology residency, I continued my interest in retinal imaging research. I collaborated with Dr. Sharon Fekrat on imaging outcomes in patients with neurodegenerative conditions including traumatic brain injury and post-traumatic stress disorder. I also worked with Dr. Dilraj Grewal on imaging outcomes in patients with uveitic conditions. Finally, I pursued my interests in health services research with Dr. Jullia Rosdahl examining the accessibility of online websites providing glaucoma patient education. These research efforts have resulted in multiple publications and presentations.

A. Peer Reviewed Articles

- I. **Karthik N**, Zheng Y, Materin M, Woodward J, Grewal DS. “Immunoglobulin G4-Related Disease Manifesting as Posterior Uveitis” Journal of VitreoRetinal Diseases. Accepted.
- II. Saboya-Galindo P, **Karthik N**, Fekrat, S. “Subretinal fluid overlying a drusenoid pigment epithelial detachment in an eye with dry age-related macular degeneration” Digital Journal of Case Reports in Ophthalmology. Accepted.
- III. **Karthik N**, Patel SD, Justin GA, Stinnett SS, Chiu SJ, Tagg NT, Agrawal R, Grewal DS, Fekrat S. “Retinal Layer Thickness and Volume Measurements in Traumatic Brain Injury” Journal of VitreoRetinal Diseases. September 3rd, 2025. Epub ahead of print. PMID: 40919302; PMCID: PMC12408546.
- IV. Sattah N, Zhao W, Choi A, Chi M, Sarici K, Weng P, Morgan R, Zheng Y, **Karthik N**, Vajzovic L, Hadziahmetovic M. “Effect of Faricimab on Visual Acuity and Retinal Structure in Neovascular Age-Related Macular Degeneration Previously Treated With Anti-VEGF Therapy” Journal of VitreoRetinal Diseases. August 30th, 2025. Epub ahead of print. PMID: 40893340; PMCID: PMC12398462.

B. Non-Peer Reviewed Articles

- I. **Karthik, N.**, Grewal, D.S. “IL-6 Inhibition as a Treatment for Noninfectious Uveitis” Retinal Physician. September 1st, 2025.
- II. **Karthik, N.**, Fekrat, S. “Innovative Therapies in the nAMD Pipeline: What’s Coming Next?”. April 1st, 2026.

C. Poster Presentations

- I. **Karthik N.**, Grewal, D.S., Fekrat S. “An Atypical Presentation of Adult-Onset Coats’ Disease with Cystoid Macular Edema” North Carolina Society of Eye Physicians and Surgeons Annual Meeting; Greensboro, NC (2024). (Poster presented by N. Karthik)
- II. **Karthik, N.**, Patel, S.D., Justin, G.A., Chiu, S.J., Grewal, D.S., Fekrat, S. “Retinal Architectural Findings in Traumatic Brain Injury using Optical Coherence Tomography” The Association for Research in Vision and Ophthalmology; Seattle, WA (2023). (Poster presented by N. Karthik)
- III. Patel, S.D., **Karthik, N.**, Justin, G.A., Chiu, S.J., Grewal, D.S., Fekrat, S Analyzing Retinal Layer Structure in Individuals with Post-Traumatic Stress Disorder using OCT. The Association for Research in Vision and Ophthalmology; Seattle, WA (2023). (Poster presented by S.D. Patel)

For a Complete List of Published Works:

<https://scholar.google.com/citations?user=LaNSrEkAAAAJ&hl=en>

D. Scholastic Performance

Case Western Reserve University
Bachelor of Arts, Psychology

GPA 4.0/4.0

USMLE Step 1 Score: 252

USMLE Step 2 Score: 269

USMLE Step 3 Score: 244

Case Western Reserve University School of Medicine
Doctor of Medicine

YEAR	CWRU SCHOOL OF MEDICINE COURSE TITLE	GRADE*
2021	Obstetrics and Gynecology Core Clerkship	Honors
2021	Pediatrics Core Clerkship	Honors
2021	Internal Medicine Core Clerkship	Honors
2021	Family Medicine Core Clerkship	Honors
2022	Neurology Core Clerkship	Honors
2022	Psychiatry Core Clerkship	Honors
2022	Surgery Core Clerkship	Honors
2022	MetroHealth Ophthalmology Rotation	Honors
2022	University Hospitals Ophthalmology Rotation	Honors
2022	Cleveland Clinic Cole Eye Institute Ophthalmology Rotation	Honors
2022	Duke Eye Center Away Ophthalmology Rotation	Honors
2022	Henry Ford Away Ophthalmology Rotation	Honors

*Case Western Reserve University School of Medicine core clerkships and clinical electives are graded Honors, Commendable, Satisfactory, or Unsatisfactory.