BIOGRAPHICAL SKETCH

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NAME: **Jovany Franco**

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

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
Rice University, Houston, USA	B.S.	08/2014	05/2018	Biochemistry and Cell Biology
Harvard Medical School, Boston, USA	M.D.	08/2019	05/2023	Medicine
University of Michigan Kellogg Eye Center, Ann Arbor, USA	Resident Physician	07/2023	Present	Ophthalmology

A. Personal Statement

I was raised on a dairy farm in rural California, the child of blue-collar Mexican immigrants who neither spoke English nor had the opportunity to pursue higher education. My community was medically underserved—not by chance, but due to structural forces rooted in geography, language, and socioeconomic constraint. My lived experience, along with that of my family and community, now directly inform my academic focus. As a resident physician at the University of Michigan Kellogg Eye Center, I combine Geographic Information Systems (GIS) methodology with data from the U.S. Census Bureau, Centers for Medicare & Medicaid Services, financial databases, and institutional electronic health records to study community-level variation in access to and delivery of ophthalmic care.

I have conceptualized and led multiple analyses characterizing the geographic distribution and coverage of the U.S. eye care workforce. This includes a recently published study integrating drive time-based service area analysis and Census tract-level sociodemographic data to characterize the coverage of ophthalmologists and optometrists in the U.S.[1] While approximately 98% of Americans reside within an hour of an eye care provider, reduced access remains disproportionately concentrated in older and socioeconomically disadvantaged communities. Subsequent published analyses apply a similar geospatial framework to specifically characterize the workforces of underserved ophthalmic subspecialties, finding that 7% and 14% of U.S. residents live beyond an accessible distance to a neuro-ophthalmologist or pediatric ophthalmologist, respectively.[2,3] As with the general eye care workforce, reduced geographic access to both subspecialties is disproportionately concentrated in structurally vulnerable communities—findings with direct implications for future workforce planning and deployment of alternative care delivery models.

Additional work maintains this focus on access, while integrating my interest in retinal disease. This derives, in part, from having observed family members suffering from the sequelae of undertreated diabetic retinopathy—complications disproportionately borne by Latino communities. Recent work combines GIS-based service area analysis, private equity (PE) transaction data, and difference-in-differences (DiD) methodology to demonstrate that locoregional PE acquisition of retina practices is associated with a significant increase in academic

vitreoretinal surgical volume—specifically in the form of financially burdensome, time-sensitive cases (*e.g.,* complex retinal detachment repairs) rather than less costly, routine cases (*e.g.,* membrane peels).[4] My forthcoming work applies similar geospatial methodology along with counterfactual simulation to demonstrate disparate utilization of higher-cost, on-label anti-VEGF agents across U.S. communities.[5] This work shows that, despite uniform coverage and reimbursement rules under Medicare Part B, lower-income communities less frequently receive higher-cost agents, translating to billions of dollars in differential public spending. In another upcoming study, we find community-level context similarly influences diffusion of ophthalmic diagnostic technology.[6] Specifically, while approximately three-fourths of U.S. residents lived within 15 minutes of an OCT-capable provider in 2013, subsequent diffusion was limited; only one in five of those outside this threshold in 2013 gained access by 2023, with diffusion slowest in older, more Hispanic, and lower-income communities.

I carry the lessons learned from my research, patients, and community with me as I work toward becoming an academic vitreoretinal surgeon. Ultimately, I hope for a career integrating ongoing pursuit of rigorous health services research, mentorship of underrepresented trainees, and delivery of complex vitreoretinal care to underserved communities like those that have shaped my own trajectory. At this stage in training, I am seeking guidance on how to build a durable academic career that remains accountable to the communities it serves and studies. Attending the Heed Ophthalmic Foundation Resident Retreat would provide the mentorship and peer community needed to translate this early body of work into a lasting career as a surgeon-researcher focused on equity in vitreoretinal care.

1. **Franco JJ**, Pineda R. Geographic Access to Eye Care in the United States. *Ophthalmology*. 2025. doi: 10.1016/j.ophtha.2024.07.032
2. **Franco JJ**, Fazal O, Oke I, Gaier ED. Geographic Distribution and Coverage of Neuro-Ophthalmologists in the United States. *JAMA Ophthalmology*. 2025. doi: 10.1001/jamaophthalmol.2025.3975
3. **Franco JJ**, Shapiro JN, Johnson-Griggs MA, Mian SI. Geographic distribution and coverage of pediatric ophthalmologists in the United States. *Journal of the American Association for Pediatric Ophthalmology and Strabismus*. 2025. doi: 10.1016/j.jaapos.2025.104223
4. **Franco JJ**, Pan WW, Mian SI, Wubben TJ. Association Between Locoregional Private Equity Investment in Retina Practices and Academic Vitreoretinal Caseload. *Clinical Ophthalmology*. 2025. doi: 10.2147/opth.s528732
5. **Franco JJ**, Song A, Pan WW, Williams GA, Johnson MW, Wubben TJ. Community-Level Variation in On-Label Versus Off-Label Anti-VEGF Use and Medicare Part B Spending. *Under review*.
6. **Franco JJ**, Huang B, Hall BP, Wubben TJ. Geographic Diffusion of Optical Coherence Tomography Across U.S. Communities, 2013-2023: A Medicare Claims Analysis. *In preparation.*

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2025 – Present	Co-Chair, Resident Wellness Committee, University of Michigan Kellogg Eye Center
2024 – Present	Co-Manager, Resident Social Media Committee, University of Michigan Kellogg Eye Center
2023 – Present	Member, American Academy of Ophthalmology
2024	Mentor, Michigan Ophthalmology Pathway Program, University of Michigan
2021 – 2022	Senior Clinician, Crimson Care Collaborative, Harvard Medical School
2020 – 2023	Associate Editor, Harvard Medical Student Review, Harvard Medical School
2020 – 2023	Non-Resident Tutor*,* Eliot House Premedical Committee, Harvard University
2020 – 2022	Co-President, Ophthalmology Student Interest Group, Harvard Medical School
2020 – 2022	Co-Leader, Peer Advising Liaisons Program, Harvard Medical School
2019 – 2021	Junior Clinician, Crimson Care Collaborative, Harvard Medical School
2019 – 2020	Executive Board Member, Latino Medical Student Association, Harvard Medical School
2018 – 2019	Research Assistant, Eisenhoffer Lab, MD Anderson Cancer Center
2018	Teaching Assistant, Medical Professionalism (NSCI 399), Rice University
2016 – 2018	Fellow (Peer Tutor), Academic Fellows Program, Rice University

2016 – 2017 Teaching Assistant, Intermediate Experimental Biosciences (BIOC 211), Rice University
2016 Teaching Assistant, Molecular Biology & Genetics (BIOC 344), Rice University
2015 – 2018 Undergraduate Research Assistant, Eisenhoffer Lab, MD Anderson Cancer Center

Honors

2026 ARVO Travel Grant, Joseph M. and Eula C. Lawrence/Retina Research Foundation
2024 Advocacy Ambassador, American Academy of Ophthalmology
2020 Minority Ophthalmology Mentoring Program, American Academy of Ophthalmology
2019 Dean's REACH Scholarship, Harvard Medical School
2019 Poussaint Pre-Matriculation Summer Program, Dana-Farber Cancer Institute/Harvard Medical School
2019 Rice Alumni in Medicine (RAM) Excellence in Leadership Scholarship, Rice University
2018 James B. Walker Award for Outstanding Senior in Biochemistry, Rice University
2018 Distinction in Research and Creative Works, Rice University
2018 Phi Beta Kappa Honor Society, Rice University
2018 James A. Castañeda Award in Spanish Literature, Rice University

C. Contributions to Science

1. **Undergraduate and Post-Baccalaureate Career:** My early contributions involved characterizing the biophysical mechanisms governing epithelial tissue homeostasis and repair in zebrafish. Using high-resolution time-lapse confocal imaging, I demonstrated that collective cell migration generates localized crowding that promotes non-apoptotic cell extrusion via mechanosensitive stretch-activated ion channels, and that perturbation of these channels results in failed extrusion and aberrant wound healing.[a]
    a. **Franco JJ**, Atieh Y, Bryan CD, Kwan KM, Eisenhoffer GT. Cellular Crowding Influences Extrusion and Proliferation to Facilitate Epithelial Tissue Repair. *Molecular Biology of the Cell*. 2019. doi: 10.1091/mbc.E18-05-0295
2. **Medical School Career:** My medical school contributions included leading multiple clinical research projects across varied ophthalmic subspecialties. These projects included studies evaluating operative techniques and outcomes for challenging phacoemulsification cases, including surgery in patients with extremely mature corneal transplants and iris coloboma.[a,b] Additional work examined low-dose proton radiotherapy outcomes for pediatric choroidal hemangioma and risk factors for epiretinal membrane formation following rhegmatogenous retinal detachment repair.[c,d] These studies helped foster my interest in ophthalmology broadly, and vitreoretinal surgery specifically.
    a. **Franco JJ**, Reyes JL, Rahim S, Greenstein SA, Pineda R. Survival of the Fittest: Phacoemulsification Outcomes in Four Corneal Transplants by Dr. Ramon Castroviejo. *British Journal of Ophthalmology*. 2021. doi: 10.1136/bjophthalmol-2020-316435
    b. **Franco JJ**, Pineda R. Conforming to the anatomy and not the standard: A technique of eccentric capsulorrhexis and intraocular lens haptic amputation for eyes with iris coloboma. *European Journal of Ophthalmology*. 2023. doi: 10.1177/11206721231155208
    c. **Franco JJ**, Liu KX, Ioakeim-Ioannidou M, et al. Low-dose proton radiotherapy for pediatric choroidal hemangioma: A case series. *Pediatric Blood and Cancer*. 2022. doi: 10.1002/pbc.29925
    d. Popovic MM, Berinstein JM, **Franco JJ**, et al. Epiretinal Membrane Formation Following Rhegmatogenous Retinal Detachment Repair: A Retrospective Cohort Study. *Ophthalmologica*. 2024. doi: 10.1159/000537814
3. **Trainee Career:** My residency research focus primarily involves combining Geographic Information Systems (GIS) methodology with data from the U.S. Census Bureau, Centers for Medicare & Medicaid Services, financial databases, and institutional electronic health records to characterize how sociodemographic and structural forces shape ophthalmic care access and delivery. My relevant published contributions include analyses of the geographic distribution of ophthalmologists and optometrists,[a] along with more granular analyses of geographic access to underserved ophthalmic subspecialties including neuro-ophthalmology and pediatric ophthalmology.[b,c] Additional published work similarly applies GIS to study forces influencing retinal care delivery, including a study characterizing the impact of locoregional retina practice acquisition by private equity on nearby academic center vitreoretinal surgical caseload.[d] My forthcoming work applies the geospatial and claims data skillsets I

have developed toward understanding community-level determinants of on-label versus off-label anti-VEGF agent utilization and diffusion of OCT technology.[e,f]

a. **Franco JJ**, Pineda R. Geographic Access to Eye Care in the United States. *Ophthalmology*. 2025. doi: 10.1016/j.ophtha.2024.07.032
b. **Franco JJ**, Fazal O, Oke I, Gaier ED. Geographic Distribution and Coverage of Neuro-Ophthalmologists in the United States. *JAMA Ophthalmology*. 2025. doi: 10.1001/jamaophthalmol.2025.3975
c. **Franco JJ**, Shapiro JN, Johnson-Griggs MA, Mian SI. Geographic distribution and coverage of pediatric ophthalmologists in the United States. *Journal of the American Association for Pediatric Ophthalmology and Strabismus*. 2025. doi: 10.1016/j.jaapos.2025.104223
d. **Franco JJ**, Pan WW, Mian SI, Wubben TJ. Association Between Locoregional Private Equity Investment in Retina Practices and Academic Vitreoretinal Caseload. *Clinical Ophthalmology*. 2025. doi: 10.2147/opth.s528732
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f. **Franco JJ**, Huang B, Hall BP, Wubben TJ. Geographic Diffusion of Optical Coherence Tomography Across U.S. Communities, 2013-2023: A Medicare Claims Analysis. *In preparation.*

D. Scholastic Performance. Not applicable.