Stanford

Sierra Hewett Willens

MD Student with Scholarly Concentration in Informatics & Data-Driven Medicine / Women's Health - Sexual & Gender Minority Health, expected graduation Spring 2025

Bio

BIO

Sierra Willens is a medical student at Stanford interested in the intersection of healthcare and technology. In 2018 she was awarded a fellowship with Guangzhou Women and Children's Hospital to conduct AI research designed to combat socioeconomic and geographic barriers to medicine through scientific innovation. Her contributions have been recognized through numerous accolades with publications in Cell and Nature Medicine and over 3K citations in the literature. Her projects range from developing AI models for early detection of retinal diseases to predicting preterm birth and craniofacial abnormalities from perinatal ultrasounds, and assessing post-operative surgical outcomes using automated hand keypoint detection. Sierra has published seven chapters, served as a reviewer for medical journals, and was a contributor to the book, “Regenerative Facial Surgery.” Her work on regenerative facial aesthetics earned the Tiffany Award for Best Scientific Presentation. Through these pursuits, he research has earned her the Discovery Grant, Innovation Grant, and a year-long research fellowship from Stanford's MedScholars program. Lastly, Sierra received the Special Projects Initiatives Funding (SPIF) grant for cofounding Stanford's new MEDXBioDesign student initiation: a coalition between Biodesign and Stanford School of Medicine, designed to lead future generations of physicians on how to become critical, impactful collaborators in the sector of health care innovation.

HONORS AND AWARDS

- Research Fellowship, Stanford MedScholars Program (09/2023-09/2024)
- Special Projects and Initiatives Funding (SPIF), Stanford School of Medicine (09/2021-09/2022)
- Innovation Grant, Stanford MedScholars Program (09/2022-09/2023)
- Discovery Grant, Stanford MedScholars Program (06/2021-06/2022)
- Tiffany Award for Best Scientific Presentation, The American Society for Aesthetic Plastic Surgery (04/2017)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Founder/CEO, Race to Cure Foundation (2018 - 2019)
- Founder, Mask A Hero Campaign (2020 - 2020)
- Cofounder, MEDxBioDesign (2021 - 2022)

EDUCATION AND CERTIFICATIONS

- Bachelor of Science, University of California San Diego , Biochemistry (2017)
- Bachelor of Science, University of California San Diego , Applied/Natural Sciences (2017)
- Bachelor of Science, University of California San Diego (2017)
- BS, University of California, San Diego , Biochemistry and Cell Biology (2017)

SERVICE, VOLUNTEER, AND COMMUNITY WORK

- Founder of Mask A Hero Campaign (March 2020 - July 2020)
- Former CEO of Race to Cure Foundation (May 2018 - May 2019)
- Foster Youth Mentor Program Mentor (July 2016 - July 2018)
- Intern at Rady Children's Hospital (January 2014 - 6/2014)
- Scripps Memorial Hospital ER Volunteer (January 2013 - June 2013)

Research & Scholarship

RESEARCH INTERESTS

- Data Sciences
- Technology and Education

RESEARCH PROJECTS

- Automated AI Virtual Goniometer - Stanford (4/1/2022 - present)
- Artificial Intelligence to Assess Facial Paralysis - Stanford (1/1/2021 - present)
- Predicting Preterm Birth in High-Risk Pregnancies with Artificial Intelligence - Stanford (7/1/2020 - present)
- International Fellowship: Guangzhou Women & Children's Hospital - Guangzhou Women and Children's Hospital (7/1/2017 - 4/1/2019)

Professional

WORK EXPERIENCE

- International Fellowship - UC San Diego School of Medicine (7/1/2017 - 4/1/2019)
- Clinical Research Assistant - Faces Plus - Plastic Surgery, Skin and Laser Center (December 1, 2013 - July 1, 2019)
- Medical Assistant - Shiley Eye Institute | UC San Diego (May 2018 - April 2019)

Publications

PUBLICATIONS

- **Evaluation and accurate diagnoses of pediatric diseases using artificial intelligence** *NATURE MEDICINE*
  Liang, H., Tsui, B. Y., Ni, H., Valentim, C. S., Baxter, S. L., Liu, G., Cai, W., Kermany, D. S., Sun, X., Chen, J., He, L., Zhu, J., Tian, et al
  2019; 25 (3): 433-+
- **Identifying Medical Diagnoses and Treatable Diseases by Image-Based Deep Learning.** *Cell*
  Kermany, D. S., Goldbaum, M. n., Cai, W. n., Valentim, C. C., Liang, H. n., Baxter, S. L., McKeown, A. n., Yang, G. n., Wu, X. n., Yan, F. n., Dong, J. n., Prasadha, M. K., Pei, et al
  2018; 172 (5): 1122–31.e9
- **Synkinesis and Communicative Participation.** *Facial plastic surgery & aesthetic medicine*
  Okland, T. S., Willens, S. H., Pepper, J.
  2022
- **Standardized Anatomic and Regenerative Facial Fat Grafting: Objective Photometric Evaluation From 1-19 Months After Injectable Tissue Replacement and Regeneration (ITR2).** *Aesthetic surgery journal*
  Cohen, S. R., Wesson, J., Willens, S., Nadeau, T., Hillman, C., Dobke, M., Tiryaki, T.
  2021
- **Commentary on: Fat Grafting to Improve Results of Facelift: Systematic Review of Safety and Effectiveness of Current Treatment Paradigms.** *Aesthetic surgery journal*
  Cohen, S. R., Hewett, S.

2021; 41 (1): 13-15

- **In-Vitro Comparative Examination of the Effect of Stromal Vascular Fraction Isolated by Mechanical and Enzymatic Methods on Wound Healing** *AESTHETIC SURGERY JOURNAL*
  Tiryaki, K., Cohen, S., Kocak, P., Turkay, S., Hewett, S.
  2020; 40 (11): 1232–40
- **Facelift With Power-Assisted Dissection: A Preliminary Report.** *Aesthetic surgery journal*
  Cohen, S. R., Hewett, S., Baraf, P., Crowley, S. J., Atlan, M.
  2020
- **Progressive Improvement in Midfacial Volume 18 to 24 Months After Simultaneous Fat Grafting and Facelift: An Insight to Fat Graft Remodeling**
  Cohen, S. R., Hewett, S., Ross, L., Fischer, M., Saad, A., Teubel, S., Delaunay, F.
  OXFORD UNIV PRESS INC.2020: 235–42
- **Ethnic Rhinoplasty in Female Patients: The Neoclassical Canons Revisited** *AESTHETIC PLASTIC SURGERY*
  Saad, A., Hewett, S., Nolte, M., Delaunay, F., Saad, M., Cohen, S. R.
  2018; 42 (2): 565–76
- **Regenerative Cells For Facial Surgery: Biofilling and Biocontouring** *AESTHETIC SURGERY JOURNAL*
  Cohen, S. R., Hewett, S., Ross, L., Delaunay, F., Goodacre, A., Ramos, C., Leong, T., Saad, A.
  2017; 37: S16–S32
- **Buccal Fat Pad Augmentation for Facial Rejuvenation** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Cohen, S. R., Fireman, E., Hewett, S., Saad, A.
  2017; 139 (6): 1273E–1276E

PRESENTATIONS

- Progressive Improvement in Midfacial Volume 18 to 24 Months After Simultaneous Fat Grafting and Facelift: An Insight to Fat Graft Remodeling - The American Society of Aesthetic Plastic Surgery Inc. (April 30, 2017)