Virginia E. Strehle

Contact
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EDUCATION

Ph.D. Cognition and Cognitive Neuroscience *August 2024 -*
Vanderbilt University

M.S. Applied Cognition and Neuroscience *December 2023*
The University of Texas at Dallas
Specialization: Computational Modeling/Intelligent Systems

B.S. Psychology *May 2022*
The University of Texas at Dallas
Honors thesis: Deeper levels of processing improve recognition accuracy for inverted faces.

RESEARCH EXPERIENCE

Tong Lab – Vanderbilt University *August 2024 -*
Graduate researcher

- Revealed discrepancies between human and convolutional neural network sensitivities to face shape and texture.

Face Perception Research Lab – The University of Texas at Dallas *October 2020 -*
Research assistant *December 2023*

- Demonstrated that convolutional neural network models trained for face identification were more sensitive to changes in face configuration rather than swaps of face features.
- Demonstrated that modern convolutional neural networks models could differentiate images of identical twins as well as top-performing humans participants.

Infant Learning Project – The University of Texas at Dallas *January 2020 -*
Research assistant · Lab manager *December 2022*

- Programmed online experiments to study intersensory redundancy and infants' understanding of humor.

HONORS AND AWARDS

University Graduate Fellowship ($5000/year for 3 years) *August 2024*
Vanderbilt University, Graduate School

Student Leadership Award *May 2022*
The University of Texas at Dallas, School of Behavioral and Brain Sciences

Major Honors in Psychology *May 2022*
The University of Texas at Dallas, School of Behavioral and Brain Sciences

Latin Honors (*magna cum laude*) *May 2022*
The University of Texas at Dallas, School of Behavioral and Brain Sciences

UTD Institutional Review Board HIVE Award (link) *Spring 2022*
The University of Texas at Dallas, Office of Research and Innovation

Undergraduate Research Scholarship Award ($800) *Fall 2021*
The University of Texas at Dallas, Office of Undergraduate Education

University of Buffalo exploreCSR Research Grant ($1,000) *Spring 2021*
University of Buffalo exploreCSR program

PUBLICATIONS

Strehle, V.E., Bendiksen, N.K., & O'Toole, A.J. (2024). Deep convolutional neural networks are sensitive to configural properties of faces. *Journal of Vision*. *24*(6). https://doi.org/10.1167/jov.24.12.6

Parde, C. J., **Strehle, V.E.,** Banerjee, V., Hu, Y., Cavazos, J., Castillo, C. D., & O'Toole, A. J. (2023). Twin identification over viewpoint change: A deep convolutional neural network surpasses human. *ACM Transactions on Applied Perception*, *20*(3), 1-15. https://doi.org/10.1145/3609224

CONFERENCE PRESENTATIONS

Strehle, V.E., Bendiksen, N.K., & O'Toole, A.J. (May 2023). Deep convolutional neural networks are sensitive to configural properties of faces. *Journal of Vision*, *23*(9), 5560-5560. https://doi.org/10.1167/jov.23.9.5560

Strehle, V.E. & Spence, M.J. (March 2023). Deeper levels of processing improve recognition accuracy for inverted faces. *Presented at the annual conference of the Southwestern Psychological Association*, Frisco, TX, 2023.

Razvi, S., Hale, M., **Strehle, V.E.**, Hernandez, I.B., Davis, H.W., & Spence, M.J. (March 2023). Infants' Perception of Faces and Speech: A Web-Based Study. *Presented at the annual conference of the Southwestern Psychological Association*, Frisco, TX, 2023

Parde, C. J., **Strehle, G.**, Banerjee, V., Hu, Y., Cavazos, J. G., Castillo, C. D., & O'Toole, A. J. (May 2022). Comparing human and deep convolutional neural network performance on twin identification. *Journal of Vision*, *22*(14), 3357-3357. https://doi.org/10.1167/jov.22.14.3357

Roberts, A., Razvi, S., Rehman, S., Hale, M., Mickelsen, M., **Strehle, G.**, ... & Spence, M. J. (April 2021) Exploring the Relationship Between Mental-State Language and Children's Early Vocabulary Development. *Presented at the virtual Society for Research in Child Development Biennial Meeting*, 2021.

INVITED TALKS

Strehle, V.E., Bendiksen, N.K., & O'Toole, A.J. (12 April, 2023). Deep convolutional neural networks are sensitive to face configuration. *Different Minds Collaborative 2023 Trainee Conference*. Hosted remotely by University of Victoria, organized by Jim Tanaka.

TEACHING EXPERIENCE

Cognitive Science *Fall 2023*
The University of Texas at Dallas
Graduate teaching assistant
Professor: Alice O'Toole, Ph.D.

Molecular Neuroscience *Fall 2022*
The University of Texas at Dallas
Graduate teaching assistant
Professor: Rukhsana Sultana, Ph.D.

Honors Cognitive Science *Spring 2022*
The University of Texas at Dallas
Undergraduate teaching assistant
Professor: Alice O'Toole, Ph.D.

TECHNICAL SKILLS

Python (proficient)

R (proficient)

MATLAB (working)

VOLUNTEERING

Brain Blast! *March 2025*

Vanderbilt Brain Institute · Nashville Public Library

- Worked a booth to teach children about human and computer vision in collaboration with the Vanderbilt Brain Institute and the Nashville Public Library.