Yiyin Zhou

Department of Computer and Information Science
Fordham University
113 W 60th St, LL808C
New York, NY 10023

yiyin.zhou@fordham.edu

Education

Columbia University

Ph.D., Electrical Engineering

Dissertation: *Massively Parallel Spiking Neural Circuits: Encoding, Decoding and Functional Identification*
Advisor: Aurel A. Lazar

M.S., Electrical Engineering

Shanghai Jiao Tong University

B.E., Information Engineering

Research Interest

- Theoretical and Computational Neuroscience
- Neuroinformatics
- funtional logic of *Drosophila* brain circuits
- brain-inspired information processing systems

Academic Appointments

Assistant Professor — **Fordham University**
Department of Computer and Information Science — Sept 2023 - present
Courses taught:
Computer Science I (CISC1600) and Lab (CISC1610) - Fall 2023, Fall 2024
Introduction to Computer Programming (CISC1800) and Lab (CISC1810) - Spring 2024
Data Structures (CISC2200) - Spring 2024
Information and Data Management (CISC2500) - Fall 2023, Fall 2024

Associate Research Scientist — **Columbia University**
Department of Electrical Engineering — Nov 2018 - Aug 2023
PI: Aurel A. Lazar

Postdoctoral Research Scientist — **Columbia University**
Department of Electrical Engineering — Nov 2015 - Oct 2018
PI: Aurel A. Lazar

Honors and Awards

Jury Award, Department of Electrical Engineering, Columbia University	2016
Wei Family Private Foundation Special Scholarship	2013
IEEE CIS IJCNN 2011 Student Travel Grant Awards	2011
Excellent Academic Scholarship of Shanghai Jiao Tong University	2005
Excellent Academic Scholarship of Shanghai Jiao Tong University	2004

Publications

* Authors' names in all publications are listed in alphabetical order, except for those indicated by a superscript †.

Peer-reviewed Journal Articles:

1. Aurel A. Lazar, Tingkai Liu, Chung-Heng Yeh and **Yiyin Zhou**, Modeling and Characterization of Pure and Odorant Mixture Processing in the Mushroom Body Calyx, *Frontiers in Physiology* 15:1410946, 2024. Special Issue: Invertebrate brains as model systems for learning, memory, and recall: development, anatomy and function of memory systems. doi: 10.3389/fphys.2024.1410946.

2. Aurel A. Lazar and **Yiyin Zhou**, Divisive Normalization Processors in the Early Visual System of the *Drosophila* Brain, *Biological Cybernetics* 117:411–431, 2023. Special Issue: What can Computer Vision learn from Visual Neuroscience? doi: 10.1007/s00422-023-00972-x.
3. Aurel A. Lazar, Mehmet K. Turkcan and **Yiyin Zhou**, A Programmable Ontology Encompassing the Functional Logic of the *Drosophila* Brain, *Frontiers in Neuroinformatics* 16:853098, 2022. Research Topic: Neuroinformatics of Large Scale Brain Modelling. doi: 10.3389/fninf.2022.853098.
4. Aurel A. Lazar, Tingkai Liu, Mehmet K. Turkcan and **Yiyin Zhou**, Accelerating with FlyBrainLab the Discovery of the Functional Logic of the *Drosophila* Brain in the Connectomic and Synaptomic Era, *eLife*, 10:e62362, 2021, doi: 10.7554/eLife.62362.
5. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, Sparse Identification of Contrast Gain Control in the Fruit Fly Photoreceptor and Amacrine Cell Layer, *The Journal of Mathematical Neuroscience*, Vol 10, Article Number 3, 2020, doi: 10.1186/s13408-020-0080-5.
6. Minghao Yang, Chung-Heng Yeh, **Yiyin Zhou**†, Joao Cerqueira, Aurel A. Lazar and Mingoo Seok, Design of an Always-On Deep Neural Network Based 1 μW Voice Activity Detector Aided with a Customized Software Model for Analog Feature Extraction, *IEEE Journal of Solid State Circuits*, Vol 54, No 6, pp 1764-1777, 2019, doi: 10.1109/JSSC.2019.2894360.
7. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, Sparse Functional Identification of Complex Cells from Spike Times and the Decoding of Visual Stimuli, *The Journal of Mathematical Neuroscience*, Vol 8, No 2, pp 1-40, 2018, doi: 10.1186/s13408-017-0057-1.
8. (Invited) Aurel A. Lazar and **Yiyin Zhou**, Identifying Multisensory Dendritic Stimulus Processors, *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, Vol 2, No 2, pp 183-198, 2016, Special Issue on Biological Applications of Information Theory in Honor of Claude Shannon's Centennial, Part II, doi: 10.1109/TMBMC.2017.2652417.
9. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, A Motion Detection Algorithm Using Local Phase Information, *Computational Intelligence and Neuroscience*, Volume 2016, Article ID 7915245, 2016, doi: 10.1155/2016/7915245.
10. Aurel A. Lazar, Yevgeniy B. Slutskiy and **Yiyin Zhou**, Massively Parallel Neural Circuits for Stereoscopic Color Vision: Encoding, Decoding and Identification, *Neural Networks*, Vol 63, pp.254-271, 2015, doi: 10.1016/j.neunet.2014.10.014.
11. (Invited) Aurel A. Lazar and **Yiyin Zhou**, Reconstructing Natural Visual Scenes from Spike Times, *Proceedings of the IEEE*, Vol 102, No 10, pp.1500-1519, 2014, Special Issue on Bioinspired Imaging, doi: 10.1109/JPROC.2014.2346465.
12. Aurel A. Lazar and **Yiyin Zhou**, Volterra Dendritic Stimulus Processors and Biophysical Spike Generators with Intrinsic Noise Sources, *Frontiers in Computational Neuroscience*, Vol 8, No 95, 2014, Special research topic on Neuronal stochastic variability: influences on spiking dynamics and network activity, doi: 10.3389/fncom.2014.00095
13. Aurel A. Lazar, Eftychios A. Pnevmatikakis and **Yiyin Zhou**, The Power of Connectivity: Identity Preserving Transformations on Visual Streams in the Spike Domain, *Neural Networks*, Vol 44, pp.22-35, 2013, doi: 10.1016/j.neunet.2013.02.013.
14. Aurel A. Lazar and **Yiyin Zhou**, Massively Parallel Neural Encoding and Decoding of Visual Stimuli, *Neural Networks*, Vol 32, pp.303-312, August, 2012, Special Issue on IJCNN 2011, doi: 10.1016/j.neunet.2012.02.007.
15. Aurel A. Lazar, Eftychios A. Pnevmatikakis and **Yiyin Zhou**, Encoding Natural Scenes with Neural Circuits with Random Thresholds, *Vision Research*, Vol 50, No 22, pp. 2200-2212, October, 2010, Special Issue on Mathematical Models of Visual Coding, doi: 10.1016/j.visres.2010.03.015.

Refereed Conference Proceedings:

16. Minghao Yang, Chung-Heng Yeh, **Yiyin Zhou**†, Joao Cerqueira, Aurel A. Lazar and Mingoo Seok, A 1μW Voice Activity Detector using Analog Feature Extraction and Digital Deep

Neural Network, in *Proceedings of the 2018 IEEE International Solid-State Circuits Conference (ISSCC)*, San Francisco, CA, February 11-15, 2018, doi:10.1109/ISSCC.2018.8310326.

17. Aurel A. Lazar and **Yiyin Zhou**, Realizing Video Time Decoding Machines with Recurrent Neural Networks, in *Proceedings of the 2011 International Joint Conference on Neural Networks (IJCNN)*, IEEE, San Jose, CA, July 31 - August 5, 2011, doi:10.1109/IJCNN.2011.6033335.

Preprints:

18. Aurel A. Lazar, Tingkai Liu, Chung-Heng Yeh and **Yiyin Zhou**, Odorant Mixture Separation in *Drosophila* Early Olfactory System, *bioRxiv* 2022.508558, September 2022, doi: 10.1101/2022.09.20.508558.
19. Aurel A. Lazar, Tingkai Liu and **Yiyin Zhou**, Divisive Normalization Circuits Faithfully Represent Auditory and Visual Stimuli, *bioRxiv* 2022.506431, September 2022, doi: 10.1101/2022.09.17.506431.
20. Aurel A. Lazar, Mehmet K. Turkcan and **Yiyin Zhou**, A Programmable Model for Exploring the Functional Logic of the *Drosophila* Mushroom Body, *bioRxiv* 2022.506218, September 2022, doi: 10.1101/2022.09.10.506218.
21. Aurel A. Lazar, Mehmet K. Turkcan and **Yiyin Zhou**, A Programmable Model for Exploring the Functional Logic of the *Drosophila* Antennal Lobe, *bioRxiv* 2022.506216, September 2022, doi: 10.1101/2022.09.10.506216.
22. Nikul H. Ukani, Chung-Heng Yeh, Adam Tomkins, **Yiyin Zhou**†, Dorian Florescu, Carlos Luna Ortiz, Yu-Chi Huang, Cheng-Te Wang, Mehmet K. Turkcan, Tingkai Liu, Paul Richmond, Chung-Chuan Lo, Daniel Coca, Ann-Shyn Chiang and Aurel A. Lazar, The Fruit Fly Brain Observatory: from structure to function, *bioRxiv* 580290, March 2019, doi: 10.1101/580290.
23. Aurel A. Lazar, Konstantinos Psychas, Nikul H. Ukani and **Yiyin Zhou**, A Parallel Processing Model of the *Drosophila* Retina, *Neurokernel Request for Comments*, Neurokernel RFC #3 , August 2015, doi: 10.5281/zenodo.30036.
24. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, The Cartridge: A Canonical Neural Circuit Abstraction of the Lamina Neuropil – Construction and Composition Rules, *Neurokernel Request for Comments*, Neurokernel RFC #2 , January 2014, doi: 10.5281/zenodo.11856.

Conference Abstracts:

25. Bruce Y. Bu, Pranav I. Deevi, Aurel A. Lazar, Shashwat Shukla and **Yiyin Zhou**, DrosoGPT: a Natural Language Querying Interface for Exploring the Structure and Functional Logic of the *Drosophila* Brain, *Society for Neuroscience Abstracts*, Chicago, IL, October 5-9, 2024.
26. Bruce Y. Bu, Aurel A. Lazar and **Yiyin Zhou**, End-to-End Modeling of the *Drosophila* Early Vision System with Cascading Divisive Normalization Processors, *Society for Neuroscience Abstracts*, Chicago, IL, October 5-9, 2024.
27. Aurel A. Lazar, Shashwat Shukla and **Yiyin Zhou**, Modeling Small Object Detection of Drosophila Lobula Circuits with Divisive Normalization Processors, *Society for Neuroscience Abstracts*, Chicago, IL, October 5-9, 2024.
28. Aurel A. Lazar and **Yiyin Zhou**, Beyond the Connectome: Divisive Normalization Processors in the *Drosophila* Early Olfactory and Vision Systems, *Computational Neuroscience Meeting (CNS*2024), Natal, Brazil, July 20-24, 2024.*
29. *Aurel A. Lazar, Shashwat Shukla and **Yiyin Zhou**, Generating Wiring Diagrams of Local Processing Units of the Drosophila Central Complex, Neurobiology of Drosophila, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 3-7, 2023.*
30. *Bruce Y. Bu, Aurel A. Lazar and **Yiyin Zhou**, Evaluating with Natural Scenes the End-to-End Motion Detection of the Drosophila Early Visual System, Neurobiology of Drosophila, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 3-7, 2023.*

31. *Aurel A. Lazar, Mehmet Kerem Turkcan and **Yiyin Zhou**, A Circuit Library for Exploring the Functional Logic of Massive Feedback Loops in Drosophila Brain, COSYNE 2022, Lisbon, Portugal, March 17-20, 2022.*

32. *Aurel A. Lazar, Mehmet Kerem Turkcan and **Yiyin Zhou**, Untangling the Graph Structure of Drosophila Brain Datasets with Open Source FlyBrainLab Utility Libraries, Society for Neuroscience Abstracts, Chicago, Illinois, November 8-11, 2021.*

33. *Aurel A. Lazar, Mehmet Kerem Turkcan and **Yiyin Zhou**, Interrogating the Functional Logic of Drosophila Brain Circuits at Single-Synapse Scale, Society for Neuroscience Abstracts, Chicago, Illinois, November 8-11, 2021.*

34. *Aurel A. Lazar, Mehmet Kerem Turkcan and **Yiyin Zhou**, NeuroNLP Gene Match – An Open Source Genetic Data Visualizer and Explorer, Neurobiology of Drosophila Meeting, October 5-8, 2021, (virtual meeting).*

35. *Aurel A. Lazar, Tingkai Liu, Mehmet Kerem Turkcan and **Yiyin Zhou**, FlyBrainLab: A Complete Programming Environment for Discovering the Functional Logic of the Fruit Fly Brain, Neuroinformatics Assembly 2021, April 2021, (virtual meeting).*

36. *Aurel A. Lazar, Tingkai Liu, Mehmet Kerem Turkcan and **Yiyin Zhou**, FlyBrainLab: An Interactive Computing Platform for Exploring the Drosophila Brain, PyData Global, November 2020, (virtual meeting).*

37. *Aurel A. Lazar, Tingkai Liu, Mehmet Kerem Turkcan and **Yiyin Zhou**, FlyBrainLab: Interactive Computing in the Connectomic/Synaptomic Era, Jupytercon, October 2020, (virtual meeting).*

38. *Aurel A. Lazar, Tingkai Liu and **Yiyin Zhou**, Functional Identification of the Odorant Transduction Process of Drosophila Olfactory Sensory Neurons, Computational Neuroscience Meeting (CNS*2020), July 2020, (virtual meeting).*

39. *Aurel A. Lazar, Mehmet Kerem Turkcan and **Yiyin Zhou**, Generating Executable Mushroom Body and Lateral Horn Circuits from the Hemibrain Dataset with FlyBrainLab, Computational Neuroscience Meeting (CNS*2020), July 2020, (virtual meeting).*

40. *Mehmet K. Turkcan, Tingkai Liu, Chung-Heng Yeh, **Yiyin Zhou**† and Aurel A. Lazar, FlyBrainLab: An Interactive Computing Environment for the Fruit Fly Brain, Society of Neuroscience, October 19-24, 2019, Chicago, IL.*

41. *Aurel A. Lazar, Tingkai Liu and **Yiyin Zhou**, Divisive Normalization Circuits Faithfully Represent Visual, Olfactory and Auditory Stimuli, Computational Neuroscience Meeting, (CNS*2019), Barcelona, Spain, July 13-17, 2019.*

42. *Nikul H. Ukani, Adam Tomkins, Chung-Heng Yeh, Wesley Bruning, Allison L. Fenichel, **Yiyin Zhou**†, Yu-Chi Huang, Dorian Florescu, Carlos Luna Ortiz, Paul Richmond, Chung-Chuan Lo, Daniel Coca, Ann-Shyn Chiang and Aurel A. Lazar, NeuroNLP: a natural language portal for aggregated fruit fly brain data, Computational Neuroscience Meeting (CNS*2017), Antwerp, Belgium, July 15-20, 2017. Preprint: bioRxiv 092429, doi: 10.1101/092429.*

43. *Aurel A. Lazar, Konstantinos Psychas, Nikul H. Ukani and **Yiyin Zhou**, Retina of the Fruit Fly Eyes: A Detailed Simulation Model, Computational Neuroscience Meeting (CNS*2015), Prague, Czech Republic, July 18-23, 2015, doi: 10.1186/1471-2202-16-S1-P301.*

44. *Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, Functional Identification of Complex Cells From Spike Times and the Decoding of Visual Stimuli, Computational Neuroscience Meeting, (CNS*2015), Prague, Czech Republic, July 18-23, 2015, doi:10.1186/1471-2202-16-S1-P300.*

45. *Lev E. Givon, Aurel A. Lazar, Konstantinos Psychas, Nikul H. Ukani, Chung-Heng Yeh and **Yiyin Zhou**, Neurokernel: Building an in Silico Fruit Fly Brain, IEEE EMBS BRAIN Grand Challenges Conference, November 2014.*

46. *Aurel A. Lazar, Nikul H. Ukani, Chung-Heng Yeh and **Yiyin Zhou**, A Parallel Programming Model of Local Processing Units in the Fruit Fly Brain, Front. Neuroinform. Conference Abstract: Neuroinformatics 2014, Leiden, Netherland, August 27-29, 2014, doi: 10.3389/conf.fninf.2014.18.00024,*

47. *Aurel A. Lazar, Yevgeniy B. Slutskiy and* ***Yiyin Zhou****, Functional Identification and Evaluation of Massively Parallel Neural Circuits, Computational Neuroscience Meeting (CNS*2013), Paris, France, July 13-18, 2013, doi: 10.1186/1471-2202-14-S1-P431.*

Dissertation:

48. **Yiyin Zhou**, Massively Parallel Spiking Neural Circuits: Encoding, Decoding and Functional Identification, Graduate School of Arts and Sciences, Columbia University in the City of New York, New York, 2015, doi: 10.7916/D8SQ8ZQF.

Presentations

Invited Talks:

1. Kavli NTC Neurolunch Seminars, *A Parallel Programming Model of Local Processing Units in the Fruit Fly Brain*, Columbia University, May 24, 2016.
2. Janelia Theoretical Neuroscience Workshop, *Representation of Natural Visual Scenes by Spike Times*, HHMI Janelia Campus, November 16-20, 2015.

Poster Presentations:

3. Aurel A. Lazar, Tingkai Liu, Chung-Heng Yeh and **Yiyin Zhou**, Divisive Normalization Processing Underlies Odorant Mixture Representation in the Mushroom Body Calyx, *Society for Neuroscience Abstracts*, Chicago, IL, October 5-9, 2024.
4. Aurel A. Lazar, Tingkai Liu, Chung-Heng Yeh and **Yiyin Zhou**, Odorant Mixture Separation in the *Drosophila* Mushroom Body Calyx, *Neurobiology of Drosophila*, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 3-7, 2023.
5. Aurel A. Lazar, Tingkai Liu, Mehmet Kerem Turkcan and **Yiyin Zhou**, Comparative Study of Fruit Fly Brain Circuit Models with FlyBrainLab, *neuromatch 3.0*, October 2020, (virtual meeting).
6. Aurel A. Lazar, Tingkai Liu, Mehmet Kerem Turkcan and **Yiyin Zhou**, Comparing Drosophila Neural Circuit Models with FlyBrainLab, *Computational Neuroscience Meeting (CNS*2020)*, July 2020, (virtual meeting).
7. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, Modeling Contrast Gain Control of Fly Photoreceptors, *Computational Neuroscience Meeting (CNS*2018)*, Seattle, WA, July 13-18, 2018.
8. Aurel A. Lazar, Nikul H. Ukani, Chung-Heng Yeh and **Yiyin Zhou**, NeuroGFX: a graphical functional explorer for fruit fly brain circuits, *Society for Neuroscience Abstracts*, Washington, DC, November 11-15, 2017.
9. Aurel A. Lazar, Nikul H Ukani, and **Yiyin Zhou**, A general model for divisive normalization and its identification, *Society for Neuroscience Abstracts*, Washington, DC, November 11-15, 2017.
10. Nikul H. Ukani, Chung-Heng Yeh, Adam Tomkins, **Yiyin Zhou**†, Dorian Florescu, Carlos Luna Ortiz, Yu-Chi Huang, Cheng-Te Wang, Paul Richmond, Chung-Chuan Lo, Daniel Coca, Ann-Shyn Chiang and Aurel A. Lazar, The Fruit Fly Brain Observatory: from structure to function, *COSYNE 2017*, Salt Lake City, UT, February 23-26, 2017. Preprint: *bioRxiv* 092288, doi: 10.1101/092288.
11. **Yiyin Zhou**†, Konstantinos Psychas, Nikul Ukani and Aurel Lazar, Visualizing Parallel Information Processing in the Fruit Fly Retina, *COSYNE 2016*, Salt Lake City, UT, February 24-28, 2016.
12. Aurel A. Lazar, Wenze Li, Nikul H. Ukani, Chung-Heng Yeh and **Yiyin Zhou**, Neural Circuit Abstractions in the Fruit Fly Brain, *Society for Neuroscience Abstracts*, San Diego, California, November 9-13, 2013.
13. Aurel A. Lazar and **Yiyin Zhou**, Encoding Visual Stimuli with a Population of Hodgkin-Huxley Neurons, *Computational Neuroscience Meeting, (CNS*2010)*, San Antonio, TX, July 24 - 30, 2010, doi: 10.1186/1471-2202-11-S1-P180.

Patents

1. Aurel A. Lazar, Nikul H. Ukani and **Yiyin Zhou**, US Patent: US 9,892,518, "Systems and Methods for Detecting Motion Using Local Phase Information", Filed June 9, 2016, Issued February 13, 2018.
2. Aurel A. Lazar and **Yiyin Zhou**, US Patent: US 8,874,496 (WO2012109407), "Encoding and Decoding Machine with Recurrent Neural Networks", Filed July 23, 2013, Issued October 28, 2014.

Open-Source Code Releases

1. Tingkai Liu, Mark Mazel, Mehmet Kerem Turkcan, **Yiyin Zhou**, FlyBrainLab Interactive Computing Platform, URL: https://flybrainlab.fruitflybrain.org.
   FlyBrainLab is an interactive computing platform for studying the function of executable circuits constructed from fly brain data, with a goal to accelerate the discovery of the functional logic of the fruit fly brain. FlyBrainLab provides a complete programming environment that supports the visualization of any brain circuit and the creation of circuit diagrams that can be immediately compiled for program execution, thus facilitating the construction, comparison and validation of executable brain circuit models.
2. Nikul H. Ukani, Chung-Heng Yeh, Adam Tomkins, **Yiyin Zhou**†, Mehmet Kerem Turkcan, Tingkai Liu, Jonathan Marty, Dorian Florescu, Carlos Luna Ortiz, Yu-Chi Huang, Cheng-Te Wang, Paul Richmond, Chung-Chuan Lo, Daniel Coca, Ann-Shyn Chiang and Aurel A. Lazar. Fruit Fly Brain Observatory Code Repositories, URL: https://fruitflybrain.org
   Fruit Fly Brain Observatory is a unique open source platform for studying fruit fly brain function in health and disease. The code is the implementation of applications on, e.g., https://hemibrain.neuronlp.fruitflybrain.org.
3. Konstantinos Psychas, Nikul H. Ukani and **Yiyin Zhou**, Neurokernel Model of Fruit Fly Retina, URL: https://github.com/neurokernel/retina.
   GPU-executable neural circuit of the fruit fly retina. World's first open-source emulation of the entire compound eye of the fruit fly. Full implementation of Neurokernel RFC#3.
4. Nikul H. Ukani and **Yiyin Zhou**, Neurokernel Model of Fruit Fly Lamina, URL: https://github.com/neurokernel/lamina.
   GPU-executable neural circuit of the fruit fly lamina, the first neuropil in the fruit fly visual system. Full implementation of Neurokernel RFC#2.
5. Nikul H. Ukani and **Yiyin Zhou**, Video Time Encoding and Decoding Machines, URL: https://github.com/bionet/vtem.
   Massively parallel GPU-based algorithms for encoding and decoding videos from spikes times.

Mentoring Experience

Aryan Varmora, MS Computer Science (Fordham)	Fall 2024 - present
Sara Binder, MS Data Science (Fordham)	Fall 2024 - present
Isabella Pelosi, BS Neuroscience (Fordham)	Fall 2024 - present
Grace Bassi, BS Neuroscience (Fordham)	Summer 2024 - present
Alyssa Hull, BS Neuroscience (Fordham)	Summer 2024 - present
Jialong Mai, BS Computer Science (Fordham)	Summer 2024 - present
Julianna Lamm, MS Computer Science (Fordham)	Fall 2023 - present
Venika Vachani, MS Computer Science (Fordham)	Fall 2023 - present
Clayton Brossia, MS Data Science (Fordham)	Fall 2023 - present
Sara Amello, BS Integrative Neuroscience (Fordham)	Fall 2023
Ashley Kim, BS Computer Science (Columbia SEAS'24)	Fall 2022
Benjamin Wu, MS Electrical Engineering (Columbia)	Fall 2022
Bo Yuan, MS Biomedical Engineering (Columbia)	Summer 2022 - Fall 2022
Bruce Bu, MS Electrical Engineering (Columbia), PhD Candidate	Summer 2022 - present
Qiuyang Wang, MS Applied Mathematics and Applied Physics (Columbia)	Summer 2022 - Fall 2022
Ananya Sahu, BS Neuroscience (Barnard'23)	Summer 2020 - Fall 2020
Tess Fallon, BS Electrical Engineering ((Columbia) SEAS'23)	Summer 2020 - Fall 2020
Chloe Shapiro, BS Neuroscience (Barnard'23)	Summer 2020
Yue Ma, MS Computer Science (Columbia)	Spring 2020
David Kuhta, MS Electrical Engineering (Columbia)	Summer 2019 - Fall 2019
Mingen Pan, MS Computer Science (Columbia)	Fall 2019

Hyun Dong Lee, BS Computer Science (Columbia SEAS'19) Fall 2018 - Spring 2019
Yong Hyun (Hector) Cho, BS Computer Engineering (Columbia SEAS'20) Fall 2018 - Spring 2019
Dewei Wang, MS Electrical Engineering (Columbia) Summer 2018 - Fall 2018
Jonathan N. Marty, Holmdel High School and BS Computer Science (Columbia SEAS'23) Summer 2018
Cong Han, MS Electrical Engineering (Columbia) Summer 2017 - Fall 2018
Noah Stebbins, MS Electrical Engineering (Columbia) Summer 2017
Khyber Sen, Stuyvesant High School (Columbia SEAS'22) Summer 2017
Jason Zhang, Newman Smith High School (UT Austin'21) Summer 2017
Sijia Li, MS Electrical Engineering (Columbia) Spring 2017
Zhengrui Liao, BS Electrical Engineering (Columbia SEAS'17) Spring 2017
Amol Kapoor, BS Computer Engineeing (Columbia SEAS'19) Egleston Scholar Spring 2015 - Fall 2018
Filipe de Avila Belbute Peres, BS Computer Engineering (Columbia SEAS'17) Fall 2017 - Spring 2017
Lucas Schuermann, BS Computer Science (Columbia SEAS'19) Egleston Scholar Spring 2015 - Fall 2018
Stephanie Rager, BS Computer Science (Columbia SEAS'20) Egleston Scholar Spring 2016
Lingyu Zhang, MS Electrical Engineering (Columbia) Fall 2014
Daniel Clark, MS Electrical Engineering (Columbia) Spring 2014
Andrew Edward Pope II, BS Computer Science (Columbia SEAS'14) Spring 2014
Lujia Chen, MS Electrical Engineering (Columbia) Summer 2013 - Fall 2013
Mingyang Sun, MS Electrical Engineering (Columbia) Fall 2012
Wenze Li, MS Electrical Engineering (Columbia) Summer 2011
Teng Yang, MS Electrical Engineering (Columbia) Summer 2011

University and Department Services

MS Data Science Admission Committee 2023-present

Integrative Neuroscience Program Executive Committee 2023-present

Other Services

Co-organizer and co-program chair, Fruit Fly Brain Hackathon 2016, 2017, 2018, 2019.
The hackathons bring together fly brain researchers in the NYC area, and outreach to hobbyists including software engineers, high school students, to brainstorm computational tools for developing executable models of the fruit fly brain.

Journal reviewer: Neural Networks, IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, Frontiers in Neuroinformatics, eLife, Biological Cybernetics.

EE Ambassador, Department of Electrical Engineering, Columbia University (2012-2013)