Joey Velez-Ginorio

✉ joeyv@seas.upenn.edu
🌐 https://www.seas.upenn.edu/ joeyv/

Research interests

</> Programming languages   ⬡ Neural networks   ⚗ Cognitive science

Education

2021 –	**University of Pennsylvania** — PhD / MSE, Computer and Information Science
2019 – 2021	**Massachusetts Institute of Technology** — MS, Brain and Cognitive Sciences
2018 – 2019	**University of Oxford** — MSc, Mathematics and Foundations of Computer Science
2012 – 2018	**University of Central Florida** — BS, Computer Engineering

Research Experience

2021 –	**University of Pennsylvania** — Graduate Researcher, Programming Languages Group
2022 –	**University of Pennsylvania** — Graduate Researcher, Neuroscience and Deep Learning Lab
2019 – 2021	**Harvard University** — Graduate Researcher, Programming Languages Group
2018 – 2019	**University of Oxford** — Graduate Researcher, Systems Verification Group
2017 – 2018	**Yale University** — Undergraduate Researcher, Computation and Development Lab
2016 – 2018	**MIT** — Undergraduate Researcher, Computational Cognitive Science Group
2015 – 2016	**University of Central Florida** — Undergraduate Researcher, Machine Learning Lab

Awards

2021 – 2023	Ford Foundation Predoctoral Fellowship (Honorable Mention)
2020	MIT Presidential Fellowship
2018	NSF Graduate Research Fellowship
2018	Oxford-Frost Fellowship
2017	Barry M. Goldwater Scholarship

Theses

2021	**Compositional desires as compositional programs** </> ⚗ 📄
	Joey Velez-Ginorio
	Massachusetts Institute of Technology
2019	**Learning in System F** </> ⚗ 📄
	Joey Velez-Ginorio
	University of Oxford

Publications

2023	**When naïve pedagogy breaks down: Adults rationally decide how to teach, but misrepresent learners' beliefs** ⚗ 📄
	Rosie Aboody, Joey Velez-Ginorio, Laurie Santos, Julian Jara-Ettinger
	Cognitive Science
2021	**Towards neural functional program evaluation** </> ⬡ 📄
	Torsten Scholak, Jonathan Pilault , Joey Velez-Ginorio
	AIPLANS Workshop, 35th Annual Conference on Neural Information Processing Systems

2018	**When teaching breaks down: teachers rationally select what information to share, but misrepresent learners' hypothesis spaces**	
	Rosie Aboody, Joey Velez-Ginorio, Laurie Santos, Julian Jara-Ettinger	
	Proceedings of the 40th Annual Conference of the Cognitive Science Society	
2017	**Interpreting actions by attributing compositional desires**	
	Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger	
	Proceedings of the 39th Annual Conference of the Cognitive Science Society	
2016	**Temporal order-based first-take-all hashing for fast attention-deficit-hyperactive-disorder detection**	
	Hao Hu, Joey Velez-Ginorio, Guo-Jun Qi	
	Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining	

Talks

2023	**When do neurons* represent True?**	
	Kording lab meeting — University of Pennsylvania	
	Metauni festival — Online	
2022	**Compilers as linking hypotheses**	
	PLClub meeting — University of Pennsylvania	
	Kording lab meeting — University of Pennsylvania	
2021	**A neural compiler**	
	Midlands Graduate School in Foundations of Computing – Online	
2020	**Finding programs in the brain**	
	Fiete Lab meeting — Massachusetts Institute of Technology	
2019	**Compiler synthesis**	
	MFoCS Seminar — University of Oxford	
2018	**Interpreting actions by attributing compositional desires**	
	Computation and Development Lab meeting — Yale University	
2017	**Interpreting actions by attributing compositional desires**	
	Proceedings of the 39th Annual Conference of the Cognitive Science Society	

Posters

2021	**Towards neural functional program evaluation**	
	Torsten Scholak, Jonathan Pilault, Joey Velez-Ginorio	
	AIPLANS Workshop, 35th Annual Conference on Neural Information Processing Systems	
2018	**When teaching breaks down: Teachers rationally select what information to share, but misrepresent learners' hypothesis spaces**	
	Rosie Aboody, Joey Velez-Ginorio, Laurie Santos, Julian Jara-Ettinger	
	Proceedings of the 40th Annual Conference of the Cognitive Science Society	
2018	**Interpreting actions by attributing compositional desires**	
	Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger	
	Showcase of Undergraduate Research Excellence — University of Central Florida	
	RECIPIENT OF PRESENTATION AWARD	
2017	**Interpreting actions by attributing compositional desires**	
	Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger	
	Center for Brains, Minds, and Machines Summer Showcase — MIT	
2017	**Interpreting actions by attributing compositional desires**	
	Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger	
	Proceedings of the 40th Annual Conference of the Cognitive Science Society	

2017	**Good teachers with poor assumptions: teachers rationally select what information to share, but misrepresent learners' hypothesis spaces**	⚗

Rosie Aboody, Joey Velez-Ginorio, Laurie Santos, Julian Jara-Ettinger
Proceedings of the 43rd Annual Meeting of the Society for Philosophy and Psychology

2016	**The language of mental states**	⚗

Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger
Annual Biomedical Research Conference for Minoritized Scientists
Recipient of Presentation Award

2016	**The language of mental states**	⚗

Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger
Society for Advancement of Chicanos/Hispanics & Native Americans in Science
Recipient of Presentation Award

2016	**The language of mental states**	⚗

Joey Velez-Ginorio, Max Siegel, Joshua B. Tenenbaum, Julian Jara-Ettinger
Center for Brains, Minds, and Machines Summer Showcase — MIT

2016	**Temporal Order-based First-Take-All Hashing for Fast Attention-Deficit-Hyperactive-Disorder Detection**	⚗

Hao Hu, Joey Velez-Ginorio, Guo-Jun Qi
Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining

2016	**Joint graphical lasso and deep learning for dynamic brain connectome prediction**	⬡⚗

Joey Velez-Ginorio, Hao Hu, Guo-Jun Qi
Florida Undergraduate Research Conference — University of Tampa

2016	**Joint graphical lasso and deep learning for dynamic brain connectome prediction**	⬡⚗

Joey Velez-Ginorio, Hao Hu, Guo-Jun Qi
Showcase of Undergraduate Research Excellence — University of Central Florida
Recipient of Presentation Award

2015	**Joint graphical lasso and deep learning for dynamic brain connectome prediction**	⬡⚗

Joey Velez-Ginorio, Hao Hu, Guo-Jun Qi
Society for Advancement of Chicanos/Hispanics & Native Americans in Science

Teaching

2021	**Teaching Assistant** — CIS 5000: Software Foundations, University of Pennsylvania
2017 – 2018	**Lecturer** — Quantitative Methods Workshop, Massachusetts Institute of Technology
2017	**Lecturer** — Neuroengineering and A.I. Workshop, University of Central Florida
2016	**Lecturer** — ACMSIG A.I. Workshop, University of Central Florida

Academic Service

2021	**Organizer** — Seminar on Foundations of Programming Languages, University of Pennsylvania
2021	**Reviewer** — AIPLANS, 35th Annual Conference on Neural Information Processing Systems
2020	**Reviwer** — 9th ACM SIGPLAN International Conference on Certified Programs and Proofs
2020	**Organizer** — Seminar on Foundations of Brain and Cognitive Sciences, MIT

Diversity, Equity, and Inclusion

2023 –	**Director** — NSF REU Site: Research Exp. for Undergrad. in Programming Languages
2021 –	**Member** — Doctoral Diversity Advisory Board, University of Pennsylvania (School of Engineering)
2019 – 2020	**Vice Chair** — Graduate Student Council Committee on Diversity, Equity, and Inclusion, MIT
2019	**Member** — School of Science Graduate Advisory Council, MIT

2019   **Consultant** — Impact Labs, Oxford U.K.

2017 – 2018   **Vice President** — Society for Advancement of Hispanics and Native Americans in Science, UCF

2016 – 2017   **President** — Society for Advancement of Hispanics and Native Americans in Science, UCF

2016 – 2018   **Ambassador** — Academic Advancement Programs, UCF

2016   **Mentor** — Elevation Fellows Mentorship Program, UCF