Julian Asilis

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U.S. citizen

Education

2022 – Present **Ph.D. in Computer Science**, *University of Southern California*, Los Angeles
Supported by NSF Graduate Research Fellowship, 2024–present
Research interests: Statistical learning theory; deep learning theory; deep generative models.
Advisor: Vatsal Sharan
GPA: 4.0

2016 – 2020 **A.B. in Mathematics with High Honors**, *Harvard University*, Cambridge, MA
Senior Thesis: Probability Monads, under Michael Hopkins.

Research

Authors are ordered alphabetically throughout, as is standard in computer science theory.

Transductive Sample Complexities Are Compact
Julian Asilis, Siddartha Devic, Shaddin Dughmi, Vatsal Sharan, and Shang-Hua Teng.
In submission.

Open Problem: Can Local Regularization Learn All Multiclass Problems?
Julian Asilis, Siddartha Devic, Shaddin Dughmi, Vatsal Sharan, and Shang-Hua Teng.
In *Conference on Learning Theory (COLT)*, 2024. (Open problems track)

Regularization and Optimal Multiclass Learning
Julian Asilis, Siddartha Devic, Shaddin Dughmi, Vatsal Sharan, and Shang-Hua Teng.
In *Conference on Learning Theory (COLT)*, 2024.

Computable PAC Learning of Continuous Features
Nathanael Ackerman, Julian Asilis, Jieqi Di, Cameron Freer, and Jean-Baptiste Tristan.
In *Logic in Computer Science (LICS)*, 2022.

Experience

June 2021 – June 2022 **Research Associate**, *Boston College*, Chestnut Hill, MA
- Researched computable learning theory, contributing to the publication and presentation of an extended abstract at CCA and a paper at LICS.
- Researched topological measures of complexity for neural networks, including training and analyzing 10k+ nets, and designing and implementing an efficient algorithm for computing polyhedral decompositions of deep nets.
- Served as TA and Head TA for 2 computer science courses, including writing 140 pages of notes, overseeing 7 TA's, and writing scripts for automated exam grading.

July 2020 – May 2021 **Quantitative Research Analyst**, *AQR Capital Management*, Greenwich, CT
- Refined and expanded several factors used to trade dozens of assets in fixed income.
- Delivered multiple 60-minute research presentations to senior quants and partners.
- Performed inference and time series modeling on data sets of 1M+ observations.
- Wrote production code in Python and SQL.

Summer 2019 **Research Summer Analyst**, *AQR Capital Management*, Greenwich, CT
- Completed 10-week research project studying macroeconomic signals for the fixed income group, including extensive signal testing in Python.
- Delivered findings to partners through a 60-minute presentation.

Teaching

At Boston College:
- *CSCI 1101: Computer Science I* (Spring 2022 Head Teaching Assistant)
- *CSCI 3340: Introduction to Machine Learning with Applications to Chemistry* (Fall 2021 Teaching Assistant)

At Harvard:
- *Math 101: Sets, Groups, and Topology* (Spring 2020 Course Assistant)
- *Math 112: Real Analysis I* (Spring 2019 Course Assistant)
- *Math 122: Abstract Algebra I* (Fall 2018 Course Assistant)

Community

Summer 2023 **SHINE Mentor**, *USC Summer High School Intensive in Next Generation Engineering (SHINE)*, Los Angeles, CA

2019 – 2020 **Math Mentor**, *Harvard Gender Inclusivity in Mathematics (GIIM)*, Cambridge, MA

2018 – 2019 **Teaching Assistant**, *Cambridge Math Circle*, Cambridge, MA

Skills

Programming: Python
Languages: English, Spanish