Georgia Channing

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Education

University of Oxford — Oxford, UK
MSc. Advanced Computer Science, Google DeepMind Scholar — *Oct. 2023 – Sep. 2024*

University of Tennessee — Knoxville, TN
BSc. Computer Science, summa cum laude — *Aug. 2017 – May 2022*

ETH Zürich — Zürich, CH
Informatik Bachelor's Thesis, 5.75/6.0 — *Feb. 2019 – Jul. 2019*

Experience

Staff Researcher — Jun. 2022 – Oct. 2023
Global Computing Lab — *Knoxville, TN*

- Primary researcher on NSF-funded project developing tools to analyze neural networks and optimize neural architecture search workflows.
- Recruit and manage undergraduate research students.

Data Scientist — Jul. 2020 – Jun. 2022
Center for Advanced Defense Studies — *Washington, D.C.*

- Managed the ETL pipeline: collecting sensitive and publicly available data, parsing and formatting data for further processing and visualization, and pipe-lining into the C4ADS proprietary data lake and AWS.
- Used NLP, computer vision, and auto-encoders for lead generation and target identification.

Awards & Honors

Google DeepMind Scholarship
Oxford Department of Computer Science — *May 2023*

Graduate Research Fellowship (NSF GRFP)
National Science Foundation - declined — *Mar. 2023*

Grace Hopper Celebration Speaker
Association of Computer Machinery — *Sep. 2022*

Excellence in Undergraduate Research
University of Tennessee — *May 2022*

AAAI-22 Undergraduate Consortium Scholar
Association for the Advancement of Artificial Intelligence — *Feb. 2022*

NSF Research Experience for Undergraduates
University of California, Berkeley — *Summer 2021*

Activities

UTK Systers — Aug. 2017 – Present
President — *Knoxville, TN*

- President of Systers, the University of Tennessee's organization for promoting and retaining women in computing. Involvement began as a member in 2017, mentor in 2019, Director of Mentorship in 2021, and President in 2022.
- Organize tutoring, mentor-mentee pairings and events. Teach resume and cover letter writing workshops for undergraduate members. Connect undergraduates with STEM volunteer opportunities for middle- and high-school students.

Google Summer of Code — Summer 2022
Open Source Contributor at SageMath — *Virtual*

- Worked under the supervision of Prof. David Coudert at Centre Inria d'Université Côte d'Azur to implement Gabow's Packing Arborescence Algoritm in Cython.
- Worked with SageMath infrastructure to integrate new code, including documentation and testing.

Hack4Impact UTK Aug. 2021 – Jun. 2022
Project Manager *Knoxville, TN*

- Project manager for volunteer project to support the Appalachian Community Fund.
- Managed a team of six developers and two designers to create a sustainable base of resources in order to support Appalachian community-led organizations seeking to overcome and address issues of race, economic status, gender, sexual identity, disability, and the environment.

Projects

Spectral DefocusCam | *Compressive Hyperspectral Imaging from Defocus Measurements* Jun. 2021 – Aug. 2021

- Project associated with NSF Fellowship with Berkeley's Computational Imaging Lab.
- Optimized and democratized remote sensing by designing a tunable lens with a rapidly changing focus to reconstruct single-dimensional images to 31-dimensional hyperspectral volumes.
  See code here and poster here. Extended abstract published in AAAI-22.

Bachelor's Thesis | *Machine Learning for Cardiac Arrhythmia Prevention* Feb. 2019 – Jul. 2019

- Used respiratory rates to predict cardiac arrhythmia in hospital patients. Programmed with SQL, Python, and sci-kit learn to implement a Random Forest Classification model with the MIMIC-III database. The model achieved, at its best, an accuracy of 0.98 and F1-score of 0.97 in the prediction of cardiac arrhythmia.
- Received a score of 5.75 out of 6.
- Supervised by Dr. Walter Karlen at ETH Zürich.
  See code here and paper here.

Publications & Talks

[1] **Georgia Channing**, Ria Patel, Ariel Rorabaugh, Paula Olaya, Silvina Caino-Lores, Catherine Schuman, Osamu Miyashita, Florence Tama, and Michela Taufer. "Composable Workflow for Accelerating Neural Architecture Search Using In Situ Analytics for Protein Characterization". In: *Proceedings of the 52nd International Conference on Parallel Processing (ICPP)*. ACM, Aug. 2023, pp. 1–10.

[2] **Georgia Channing**, Ria Patel, Ariel Rorabaugh, Paula Olaya, Silvina Caino-Lores, Catherine Schuman, Osamu Miyashita, Florence Tama, and Michela Taufer. *Generating Efficient Neural Networks for Protein Diffraction Data*. Project talk for JLESC15 workshop. Joint Laboratory for Extreme Scale Computing (JLESC), Mar. 2023.

[3] **Georgia Channing**. "Spectral DefocusCam: Compressive Hyperspectral Imaging from Defocus Measurements". In: *Proceedings of the 36th AAAI Conference on Artificial Intelligence*. June 2022, pp. 13128–13129.

[4] **Georgia Channing** and Catherine Schuman. *Strategies for Recruitment and Retention of Women in CS*. Project talk at GHC22. Grace Hopper Conference (ACM), Sept. 2022.

[5] Ria Patel, Ariel Rorabaugh, Paula Olaya, Silvina Caino-Lores, **Georgia Channing**, Catherine Schuman, Osamu Miyashita, Florence Tama, and Michela Taufer. "A Methodology to Generate Efficient Neural Networks for Classification of Scientific Datasets". In: *Proceedings of the IEEE International Conference on e-Science* 18 (Oct. 2022), pp. 1–2.

[6] **Georgia Channing**. "Predictive Power of Common Risk Factors for Cardiac Arrhythmias in Critical Care". Swiss Federal Institute of Technology in Zürich (ETH Zürich), July 2019.

Skills

Foreign Languages: German (C1), Mandarin (C1), Russian (B2), Spanish (B2)
Coding Languages: Python, C/C++, SQL (Postgres), PySpark
Memberships: Society of Women Engineers (SWE), Institute of Electrical and Electronics Engineers (IEEE), Association for Computing Machinery (ACM)