

Georgios (Giorgos) Kementzidis

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EDUCATION

Stony Brook University

Stony Brook, NY

PhD in Applied Mathematics and Statistics | GPA: 4.00

May 2027

- Relevant coursework: Numerical Analysis, PDEs, Risk Measures for Finance, Parallel Computing

Grinnell College

Grinnell, IA

B.A. in Mathematics and Physics with honors | GPA: 3.97

May 2022

- Relevant Coursework: Statistical Modeling, Mathematical Modeling, Computational Physics, Probability and Statistics

PROFESSIONAL WORK EXPERIENCE

Stony Brook University

February 2023 – Present

Graduate Research Assistant

- Develop methods based on ML to facilitate computational methods in biomedical sciences, e.g. using PINNs to learn coarse-grained fields, designing de-coarsening operators for molecules with CNN & c-GANs, learning the potential of rigid bodies, analyzing the error of numerical integration, generating drug-like structures with WGAN-GP & AEs.
- Explore and actively use the tools of the TensorFlow and PyTorch libraries.
- Communicate my progress to my advisor, Dr. Yuefan Deng, my collaborators, and fellow researchers.
- Lead a group of high-school and undergraduate students working on one of our research projects.
- Actively participate in a weekly journal club, where we read and present papers on ML models and their applications.

Stony Brook University

August 2022 – Present

Graduate Teaching Assistant

- Mentor 140-150 students in undergraduate classes: “Applied Linear Algebra”, “Differential Equations”.
- Teach recitations; maintain office hours; hold review sessions; develop and grade exams.

Grinnell College, Science Learning Center

August 2021 – May 2022

Undergraduate Teaching Assistant

- Assessed student needs and goals for Physics core courses: “Modern Physics” and “Mechanics”.
- Created environment for fostering growth during office hours.

PROJECTS

Grinnell College, Department of Mathematics and Statistics

March 2022 – May 2022

Student Researcher; course embedded research; MAT 306 Mathematical Modeling

- Collaborated with another student to extract, clean, and analyze data using Python and R.
- Applied mathematical and statistical techniques to model a disease outbreak draw conclusions from real data.
- Wrote a report “Exploring the Correlation between Government Stringency and Disease Transmission based on SIR”.

Grinnell College, Department of Mathematics and Statistics

October 2021 – December 2021

Student Researcher; course embedded research; MAT 317 Complex Analysis

- Explored fields of complex analysis, dynamical systems, and fractal geometry, proved lemmas and theorems.
- Used numerical methods in Python to visualize fractals coming from dynamical systems.
- Completed a report “Montel’s Theorem and its Application to the Common Boundary Condition”.

University of Connecticut, Department of Mathematics

May 2021 – August 2021

Student Researcher, Research Experience for Undergraduates

- Studied measure theory, optimal transport, explored solutions to an original problem, used programming in Python.
- Presented “An Introduction to Optimal Transport on the Sierpinski Gasket” at the “REU Virtual Conference 2021”.

Grinnell College, Department of Physics

May 2020 – July 2020

Student Researcher, Mentored Advanced Project

- Learned material related to General Relativity and Differential Geometry.
- Produced a report focusing on Fiber Bundles and Generalized Geometry.

OTHER SKILLS

- **Programming languages:** Python (data structures & algorithms, numpy, pandas, scipy, scikit-learn), C++, C, MATLAB, R
- **Other software skills:** Microsoft Excel, LaTeX, Wolfram Mathematica, Maple, Git
- **Languages:** Fluent: Greek and English; Advanced: German