

# Nicholas Attila Kovacs

STRUCTURAL BIOINFORMATICIST & DATA SCIENTIST

☎ (248)-895-274 | ✉ NicholasAttilaKovacs@gmail.com | 🏠 www.NicholasAKovacs.com | 📷 NicholasAKovacs | 🌐 NicholasAKovacs

## Summary

- Adaptive computational scientist with an experimental background that enjoys learning and mastering new skills and technologies.
- Excellent team player and collaborator in computational and experimental research which have resulted in 9 peer-reviewed publications.
- Confident science communicator, both oral and written, making scientific concepts accessible to audiences of diverse backgrounds.

## Education

### Ph.D. Bioinformatics

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Aug 2013 - Dec 2018 (expected)

### B.S. Biochemistry and Molecular Biology/Biotechnology

MICHIGAN STATE UNIVERSITY

East Lansing, MI

Aug 2008 - May 2012

## Experience

### Graduate Research Assistant

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Aug 2013 - Dec 2018

**Dissertation:** *The Evolution of Proteins Revealed by Data Mining the Ribosome*

- **Results:** Published 3 first-author papers and 5 coauthored papers
- **Tools:** Python (Numpy, Pandas, Scipy, SK-Learn, NetworkX, Biopython, PyMOL), Perl, MATLAB, JavaScript, Adobe Illustrator
- **Algorithms:** Linear Regression, SVM, Decision Trees, Random Forest, KNN, K-Means
- **Funding:** NASA, NSF - independently wrote grant to support summer research at National Taiwan University, including RT flights and housing
- **Collaboration:** Data analysis for experimental labmates
- **Communication:** Presented research as oral and poster presentations at 7 scientific conferences domestically and in Vietnam and Japan
- **Mentoring:** Research mentor for undergraduate student. Awarded conference and travel funding

### Atomic Interaction Network Analysis of the Ribosome - CS 7280 Network Science

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Fall 2017

- **Tools:** Python (Numpy, Pandas, Scipy, SK-Learn, NetworkX, Biopython, PyMOL)
- **Algorithms:** Louvain and Walktrap Community Detection

### Computational Genomics of *Neisseria meningitidis* - BIOL 7280 - Computational Genomics

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Spring 2015

- **Tools:** Python (Numpy, Pandas, Scipy, SK-Learn, NetworkX, Biopython, PyMOL), Perl, *de novo* Genomr Assembly, SAMtools, BCFtools, GATK, Kent Source tree, JBrowse, AWS

### Graduate Teaching Assistant

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

9 Semesters

- **Biophysical Chemistry Lab** - CHEM 4582 - 6 semesters - Instructed 8 undergraduate students per semester on experimental and computational biophysical chemistry protocols.
- **Macromolecular Structure** - CHEM 6572 - 2 semesters - Graded and instructed on the use of computational modelling program for a class of approx. 25 graduate students.
- **Survey Biochemistry** - CHEM 3511 - 1 semester - Held weekly recitation for approx. 40 undergraduate students. Graded homework and exams.

### Undergraduate Research Assistant

MICHIGAN STATE UNIVERSITY; HEINRICH-HEINE UNIVERSITÄT

East Lansing, MI; Düsseldorf, DE

Feb 2010 - May 2012

- **Project:** Molecular simulations of Mismatch Repair Enzymes MutS $\alpha$  and MutS $\beta$ . Coauthored paper
- **Project:** DNA-protein interaction of cis-regulatory elements in *Flaveria sp.*
- **Project:** Metabolic flux analysis of carbon through *Nanochloropsis sp.*
- **Project:** Aquaporin signalling in *Arabidopsis thaliana* gametogenesis
- **Project:** Protein-protein interactions in ER to chloroplast lipid trafficking