






# ANDREW REID

## Software Engineer

### CONTACT

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Eagan, Minnesota   
[My Portfolio](#)   
[LinkedIn](#)   
[GitHub](#) 

### EDUCATION

Master of Science  
Computational Physics  
University of Minnesota

Bachelor of Science  
Physics, Mathematics  
Bethel University  
GPA: 3.94

*Meritorious Winner | COMAP  
Mathematical Contest in Modeling |  
Placed in top 13% of 1,162 teams globally*

### RELEVANT COURSES

Directed Study: Automated Classification  
of Ultrasonic Rodent Vocalizations  
Numerical Methods (adv. algorithms)  
Mathematical Methods in Physics and  
Engineering (Fourier analysis, statistics)  
Scientific Computing (C++, OO design)

### SKILLS

Python  
C++  
JavaScript / HTML / CSS  
PostgreSQL / MySQL / SQLite  
Django / Flask  
Git / GitHub  
Azure DevOps  
High Performance Computing  
Problem Solving

### WORK EXPERIENCE

#### Software Engineer

Aligned Applications / Aug 2020 - current / Minneapolis, MN

- Collaborated via Azure DevOps to develop and maintain features for industry-scale web product in Angular framework with Firebase and NgRx
- Built and integrated Help Screen module architecture, states, and service components that return a JSON payload

#### Researcher

University of Minnesota / Aug 2012 - Aug 2016 / Minneapolis, MN

- Designed molecular dynamics simulations utilizing HPC resources at the Minnesota Supercomputing Institute to complete calculation 100x faster
- Optimized run time versus core usage at 550 cores, reducing cost by 22%
- Leveraged Python expertise with NumPy, SciPy, matplotlib, and Pandas in Jupyter framework to characterize functional structures and dynamics
- Calculated a model regression that bridged the gap between 2 groups, yielding 33% faster drug discovery with partner company
- Presented findings at national Biophysical Society meetings

#### Founder and Owner

Andrew Reid Tutoring Solutions / Aug 2016 - current / Roseville, MN

- Created business model, service and marketing that drove revenue up 200%
- Coached clients in a variety of physics, mathematics, chemistry and writing courses leading to improved letter grades and ACT/SAT/GRE test scores
- Communicated with empathy and clarity to deliver positive experiences

#### Technical Aide

3M / Oct 2007 - Aug 2011 / Maplewood, MN

- Employed Six Sigma statistics, ANOVA, and capability to measure and analyze product sample data, ensuring quality process within tolerance
- Researched and integrated ImageJ circularity metric with VBA and Java
- Spearheaded audit leading to 99.8% reduction of a manufacturer defect

### SELF-DIRECTED PROJECTS IN PYTHON

#### Route-Finder Web App

- Leveraged expertise in GeoDjango, Folium, PostgreSQL, and GIS APIs to build a Python web app that generates and displays random walking routes from start location, handles GPS access, and stores route objects plus user trip stats

#### Bookstore Database App

- Leveraged proficiency in Python, SQLite, and Tkinter to build a user interface and database backend with CRUD functionality

#### Geocoder Web App

- Harnessed expertise in Flask, Pandas, and GeoPy to develop a Python web app that converts uploaded text addresses to coordinates and populates a CSV file for download