






ANDREW REID

Software Engineer

CONTACT

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Saint Paul, Minnesota 
[My Portfolio](#) 
[LinkedIn](#) 
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EDUCATION

Master of Science
Computational Physics
University of Minnesota
GPA: 3.57

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 (advanced algorithm)
Mathematical Methods in Physics and
Engineering (Fourier analysis, statistics)
Scientific Computing (C++, OO design)
Introduction to Programming (HTML, JS)

SKILLS

Python
C++
JavaScript
HTML / CSS
SQL
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 expertise with Python's 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

PROJECTS

Bookstore Database App

- Leveraged expertise in Python, Tkinter and SQL to build a graphical user interface and database backend with CRUD functionality

Automated Classification of Rodent Vocalizations

- Leveraged novel wavelet transforms during signal analysis REU to design, build, and test an automated clustering analysis in MATLAB, resulting in effective segmentation of rat vocalizations associated with varying pain states

Geocoder Web App

- Harnessed proficiency 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