Sasha Bakker

Technical Skills

Programming Python (including libraries: SciPy, Matplotlib, NumPy, and Pandas), Google

Apps Script, C, Java, AutoHotKey

Numerical Methods Least-squares fitting models to data (linear and nonlinear), numerical integration

(Python) (trapezoid rule, Simpson's rule), solving ODE's (Euler's method, second-order

Runge-Kutta method), Fourier analysis, Random number distributions

Software Igor Pro, Capstone, MS Excel, MS PowerPoint

Hardware Arduino Uno, Sensors (light, temperature, position), Voltmeter

Editing LATEX, JupyterLab, Adobe Photoshop, ImageMagick, ImageJ

Teamwork Conference for Undergraduate Women in Physics volunteer (2019)

Education and Coursework

2017–2021 **(BS) Physics**, University of Massachusetts, Amherst, MA. Major GPA 3.82. Cumulative GPA 3.79.

Physics Computational physics, Quantum computing, Quantum mechanics, Techniques of theoretical physics, Statistical physics, Mechanics, Electricity & magnetism

Mathematics Statistics, Ordinary differential equations, Multivariate calculus, Linear algebra

2017 **Diploma**, Mascoma Valley Regional High School, Canaan, NH.

Work and Research Experience

Jan 2019-Present Researching the time dependence of a soft elastic sheet at a viscous interface. **Condensed matter physics research group.** Supervised by Prof. Narayanan Menon.

Jan-May 2020 Troubleshooted classwork and provided individualized feedback to students as an Undergraduate Teacher's Assistant for **Computational Physics (Python)**. Held office hours outside of class. *Supervised by Prof. Donald Candela*.

May-Aug 2019 **Printhead Test Lab Intern.** Designed a passive baffle for high-standoff printing applications through qualitative comparison of 300+ prints. Executed various product and print tests, analyzed and communicated the results. *Fujifilm Dimatix, Lebanon, NH.*

Jan-May 2019 Undergraduate Teacher's Assistant for **Computational Physics (Python)**. Supervised by Prof. Donald Candela.

Sept-Dec 2018 Mentored 9 freshman physics and astronomy students in solving Newtonian mechanics problems as an **Undergraduate Teacher's Assistant** for Physics I - Mechanics. Supervised by Prof. Jennifer Ross.

May-Aug 2018 **Printhead Test Lab Intern.** Scripted a printhead test submission system in Google Apps Script through Google Sheets. Concisely documented standard jetting performance testing procedures. *Fujifilm Dimatix, Lebanon, NH*.