Sasha Bakker

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Technical Skills

Programming	Python (including libraries: SciPy, Matplotlib, NumPy, and Pandas), Google Apps Script, C, Java, AutoHotKey
Numerical Methods (Python)	Least-squares fitting models to data (linear and nonlinear), numerical integration (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	Worked with lab partners and learned mechanics in teams of 2-3 students, Conference for Undergraduate Women in Physics volunteer (2019)

Education and Coursework

2017–2021 **(BS) Physics and Statistics**, *University of Massachusetts, Amherst, MA. CGPA 3.76.*

Physics Computational physics, Quantum computing, Quantum mechanics, Techniques of theoretical physics, Statistical physics (Spring 2020), Mechanics

Mathematics Statistics, Statistical computing (Spring 2020), Regression analysis (Spring 2020), 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.*

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 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.*

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 Sheets. Concisely documented standard jetting performance testing procedures. *Fujifilm Dimatix, Lebanon, NH.*