

# Rachel Baumgarten

📍 20 Harold Ave Rochester NY 12020 ✉ rnb7880@rit.edu

🐙 /rnb7880

🌐 /rachelbaumgarten7880

## Education

### Rochester Institute of Technology:

**GPA:** 3.4/4.0

**Dean's List:** Fall 2013, Spring 2014, Spring 2015

#### Courses:

Biomedical Device Eng

Analysis of Complex Biosystems

Dyn. & Ctrl. of Bio. Systems

Biomedical Signals & Analysis

Systems Physiology I & II

Musculoskeletal Biomechanics

Biosystems Process Analysis

Fluid Mechanics

Biomaterials Science

Biocompat. & Immune Systems

Begin American Sign Language

Advanced Spanish I

Spanish for Health Care

Computer Science I & II

The Mechanics of Programming

Principles of Data Management

Intro to Semiconductor Devices

AI Explorations

Engineering Statistics & DOE

Discrete Math for Computing

Multivariable & Vector Calculus

Differential Equations

Probability and Statistics I & II

### Bachelor of Science in Biomedical Engineering

**Graduation:** May 2018

**Minors:** Spanish & Computer Science

## Recent Work Experience

### Bausch & Lomb Process Engineer

*January 2017–August 2017*

Working in Process Engineering department. Developing, running and analyzing reports, developing VBA based excel documents for lab use, and helping to update technology withing the department. Assisting the Multifocal and SVS projects and current development

### Nuclea Biotechnologies Intern

*August 2015–January 2016*

Assisted in lab operations involving cancer research practices. Worked on large-scale, self-assigned database project to digitize slides. Used microtome and H&E stain line, organized slides and tissue blocks, grew cells in cell culture (freeze, open, pellet), learned tissue micro-array, immunohistochemistry and ELIZA skills.

### Girls Who Code Teacher

*June 2016–August 2016*

Taught coding to 11th and 12th grade girls. Languages taught included Scratch, Python(Pygame), C++/Arduino, HTML/CSS and JavaScript. Responsibilities included teaching material, classroom prep, classroom management, project aid, troubleshooting and hosting after-class hours.

### BME Department RIT Teacher's Assistant

*January 2015–Present*

Assisted professor in Introduction to Programming for Biomedical Engineers (MATLAB, LabView), Musculoskeletal Biomechanics & BME General Lab. Hosted TA hours to assist students with homework assignments and graded code assignments and quizzes

## Labs & Projects

### BrickHacks: EPA

Developed an application that would scan a parking lot and returned the best parking space based on building destination.

### Excitable Systems

Workshop on the electrical system of the heart concerning stimuli and pattern disruption translated into mathematics. Performed a rough dissection of a sheep's heart.

### Biomedical Signals Lab

Lab work with Circuits, ECG, EMG, EOG and Action Potential signal acquisition, analysis and comparison. Used MATLAB, LabView & AI Instruments.

## Skills

**Professional:** • Dedicated problem solver • Skilled organizer • Quick learner • Efficient time-manager • Thoughtful collaborator • Effective team leader • Public speaker • Determined independent learner • Detail Oriented • Technical writer • Strong Spanish speaker

**Lab:** • ECG, EMG, EOG and AP Analysis • Technical Documentation • Knowledge of FDA Processes • Fourier Transform • Noise reduction programming • Numerical Analysis • Analytical programming • Technical Writing • sterile technique • gel electrophoresis • microtome • H&E stain-line • micropipetting • ELIZA • live mammalian and cell culture (p388, CHO, MCF-7) • organ culture

## Key

Advanced ●●●●● Rusty ●●●●○ Intermediate ●●●○○ Novice ●●○○○ Limited ●○○○○

## Software

MATLAB ●●●●●

Microsoft Office ●●●●●

Git ●●●○○

HTML/CSS ●●●○○

Lightroom ●●●●●

VBA Excel ●●●●●

Google Drive ●●●●●

LaTeX ●●●○○

Arduino ●●○○○

SolidWorks ●○○○○

Python ●●●●●

Max/MSP ●●●●○

Java/JavaFX ●●●○○

Adobe Software ●●●○○

LabChart ●●●○○

## Interests

International and Domestic Travel, Hiking, Skiing, Teaching, Photography, Bouldering, Slam Poetry, Rugby, Yoga, Cooking, Music and Musical Theatre