

# Ryan Emberling

## Educational Developer

(203) 803-6446  
ryan.emberling@gmail.com  
<https://emberling.education>  
<https://github.com/itsalaidbacklife>

## Work Experience

### **Freudigman & Billings** *Westport, CT*

*Educational Therapist Aug 2017- Aug 2018 and Aug 2013- Aug 2015*

- Tutored 25 students per week in hour-long, 1-on-1 sessions in math, physics, chemistry, computer science, and test-prep
- Profiled students' learning with diagnostic questioning and varied instruction to tailor teaching to each student's needs
- Remediated students' memory systems and depth of processing with personalized learning regimens of exposition and practice
- Designed and ran week-long introductory python course
- Aggregated and analyzed standardized test data from over 200 Excel files using VBA script to crawl server's directory structure

### **Leader Biomedical** *Amsterdam, NL*

*Business Relations Officer Sep 2015 – July 2017*

- Managed a 10-person team to develop a Class III implantable membrane from initial specification through verification testing
- Developed operational workflows and Quality Management System (QMS) documentation for over 10 interdepartmental processes, resulting in company's ISO 13485 certification
- Trained employees in over 10 workshops on QMS processes
- Automated generation, tracking, and analysis of over 150 QMS records with multi-file Excel system using VBA

## Academic Projects

### **Dimensional Analysis Tutor** (Individual Project: CTAT) *CMU Fall 2018*

Developed Intelligent Tutoring System that adaptively reformats UI to break steps into sub-steps for struggling students

### **Fraction Comparison Tutor** (Individual Project: CTAT) *CMU Fall 2018*

Co-designed assessments and UI, then lead development of Cognitive Tutoring System that maintains a long-term model of students' knowledge to interleave decision-making practice with worked examples and self-explanation

### **E-Learning Module for Plastic Surgeons** (Partner Project: OLI) *CMU Fall 2018*

Created instructional content, co-designed efficacy study, and analyzed study results for hour-long educational module used at University of Pittsburgh Medical Center to teach core concepts of vascular surgery to 20 plastic surgery residents

### **Cuttle Bot** (Partner Project: JS, Angular, Python, sklearn) *CMU Fall 2018*

Developing JS/Python backend and co-creating Angular UI for Educational AI that implements machine learning, move-reversibility, and mixed-initiative just-in-time feedback to teach complex card game (Project ongoing)

### **Course Design: Intro to Python** (Individual Project: Processing.py) *CMU Fall 2018*

Designed rigorously aligned course using novel approach to assessments through project-based learning

## Education

### **Carnegie Mellon University**

*Pittsburgh, PA August 2019*

Masters in Educational Technology and Applied Learning Science  
Merit Scholarship – GPA 4.1/4.33

### **Trinity College**

*Hartford, CT May 2013*

BS in Mathematics and Philosophy  
Presidential fellow for Philosophy  
Summa Cum Laude – GPA 3.9/4.33

## Skills

### **Learning Science**

Backwards Curricular Design  
Cognitive Task Analysis  
Learning Curve Analysis

### **Data Science**

Python, NumPy, pandas, sklearn,  
Jupyter Notebooks, VBA (Excel)

### **Web Development**

HTML, CSS, Javascript, Node.js,  
Sails.js, Angular, AngularJS, jQuery