

Ryan Emberling

Educational Developer

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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
- Mitigated deficits in 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 adaptively 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