Jeffrey Bardwell, Ph.D.

Phone: [redacted] | E-mail: jhbardwell@gmail.com | Location: Jacobus, PA

QUALIFICATIONS

I have nine years' post higher education experience with STEM research, project management, and system design in academic and private sectors–with two years' experience in software development–using R, Python, Markdown, Mermaid, C++, HTML5, CSS3, and JavaScript ES6. My background allows me to communicate between binary, biology, and business oriented stakeholders with ease and aplomb. I provide logical, integrative solutions by leveraging a logistical integration skill set.

RECENT PROJECTS

Research Data Manager Program (Journal to JSON) **GITHUB** **PORTFOLIO**

Setup: A research article PDF electronic filing system is antiquated and difficult to use.
Problem: Users waste precious time hunting documents spread across small overlapping categorical folders to track down each PDF manually, then must visually scan the document to determine by ad hoc metrics if those contents match their needs.
Solution: Centralize research documents within a single folder. Design network of article, author, organization, and grant metadata to be accessed by HTML card catalog. Create a JavaScript algorithm to accept catalog search input, filter documents based on metadata keywords, sort results by match strength, then output a PDF hyperlinks ranked list.
Goals: Automate repetitive tasks. Compromise between automation rigidity and input flexibility. Make system easy to use and hard to break. Optimize time management. Organize, archive, and update data. Maintain freeware to benefit academic users.

Newsletter Concatenator Program (Busy Bees) **GITHUB** **PORTFOLIO**

Setup: A weekly newsletter with periodic reused content is HTML coded by hand.
Problem: User newsletter generation is labor intensive, many parts remain unchanged or are swapped periodically, and asset records are entangled with content archives.
Solution: Encode asset content and schedule metadata as object literals. Create JavaScript algorithm comparing pending to prior weekly contents. Make HTML template literals. Insert algorithm output. Update schedule metadata. Autogenerate newsletter HTML.
Goals: Automate repetitive tasks. Optimize time management. Organize, archive, and update data. Expand and develop prototype into a modular, marketable system.

Fantasy Narrative Program (Five Minute Venture) **GITHUB** **PORTFOLIO**

Setup: Adapting narrative systems from literature to videogames involves warping mechanics created for a passive audience to encompass one with agency. Pitfalls abound.
Problem: Branched decision tree node event triggers range from scripted to random, yet true user agency and consequence often remain illusory, sacrificed on the altar of designer intent.
Solution: Emergent story telling using dynamic nodes within scoped limits is entirely possible. Make options choice-driven. Frame each choice as a shifting perspective rather than a branching path. Anchor character emotive beats in lieu of plotting story beats.
Goals: Test established game design techniques and iterate new ideas. Debug interdisciplinary software development pipelines. Expand and develop into a marketable entertainment.

PROFESSIONAL EXPERIENCE

Research Scientist: Aptagen, LLC Jacobus, PA 09/2021 – present
NAICS Code 541714: Research and Development in Biotechnology (except Nanobiotechnology)

I created research metadata databases and investigated biotechnology AI/ML models. I also developed a DNA sequence sorting algorithm in JavaScript. My efforts to streamline client service business workflows allowed us to more efficiently assess grant opportunities, improve bioinformatics big data sorting time management, and visually conceptualize real-time data manipulations using dynamic iconography instead of static matrices.

Data Scientist: White Rabbit Intel, LLC Durham, NC 03/2020 – 08/2020
NAICS Code 518210: Data Processing, Hosting, and Related Services

I refactored existing Python 3.6 spaghetti code into a series of concise functions. I assisted in the development of a modular AWS S3 bucket framework using boto3 and virtualenv libraries. I created software to bin and analyze consumer data and researched rudimentary neural network AI using keras TensorFlow. My coding and brainstorming collaborations helped a fledgling startup reimagine our software-as-a-service business model and keep the product launch date on schedule.

Proposal Coordinator: A Square Group, LLC Frederick, MD 11/2019 – 05/2020
NAICS Code 541611: Admin. Management and General Management Consulting Services

I researched IT and healthcare small business federal contract opportunities, semiautomating project state workflow with Excel macros. I edited proposals, acted as a stakeholder communications hub, and facilitated scheduling using dynamic Gantt charts. My contributions helped our company submit five collaborative proposals and land one long term contract.

Software Developer: Twigboat Press, LLC Brookneal, VA 05/2017 – 11/2019
NAICS Code 511130: Book Publishers

I used GIMP 2.8 to generate advertisement graphics and created R 2.15 scripts to correlate ebook sales time series trends. I also created a JavaScript algorithm to autogenerate HTML newsletters by concatenating archived content. Evinced by our revenue declines during newsletter hiatus periods and upticks following each release, my humble efforts resulted in a marked sales increase.

Lecturer: Longwood University Farmville, VA 08/2013 – 05/2016
NAICS Code 611310: Colleges, Universities, and Professional Schools

I designed and taught an R-centric course to undergraduate biology and environmental science majors demonstrating experimental design, data sorting, model testing and validation, and graph presentation using these libraries: dplyr, ggplot2, magrittr, and tidyr. Based on pre- and post-semester tests, the course boosted student coding literacy, problem solving, and critical thinking.

Research Assistant: Baylor University Waco, TX 08/2007 – 05/2012
NAICS Code 611310: Colleges, Universities, and Professional Schools

After attending several biostatistics courses, I created a Python 2.7 Tkinter GUI to identify bacteria with Bayes theorem likelihood scores. I also used R 2.15 linear mixed models to remove individual repeat measure data bias. My contributions validated the growing trend of university collaborations among computer science and ecology disciplines seen by the subsequent increase of such courses.