Victoria Perizes, MSc

Experienced biomedical engineer seeking to transition to a software development role

Relevant Project

A complete list of projects can be found in my portfolio.

Career Compass - *In Development*

Github Repo || Website

Career Compass is my solution to keeping a record of every position I've applied for, the corresponding company details, and the current status of my applications. This project features custom CSS and utilizes a mix of vanilla JavaScript and React on the frontend. The backend features custom middleware for handling authentication, authorization and data validation. Javascript, Node, and MongoDB are all central to backend functionality.

Professional Experience

Level Ex

August 2017 - February 2023

During my tenure at Level Ex, I helped grow the company from 17 employees to over 160 while increasing the adoption of professional video games in medicine. I was the first hybrid engineer, responsible for deeply understanding biomedical problems and translating requirements to our team of software developers and designers. Our software and gaming solutions have been used by the top 20 medical device and pharmaceutical companies in the world. *Clients included: Auris, Brainlab, GE, J&J, Medtronic, Merck, NASA (TRISH), Novartis, SpaceX, and more.*

Consultant, Biomedical Solutions - Space Medicine (Nov 2022 - Feb 2023)

- Exclusively oversaw space medicine projects with NASA and SpaceX.
- Continued to function as Principal Investigator while onboarding new team members.

Lead Biomedical Solutions Specialist (May 2022 - Nov 2022)

- Lead grant author, awarded $1.1 mil from the Translational Research Institute for Space Health (TRISH) supporting the development of an ultrasound training solution for Astronauts participating in Artemis missions.
- Functioned as Principal Investigator(PI). Responsible for project scoping, product roadmap, and medical design of our ultrasound training solution for Artemis Astronauts.
- Collaborated with graphics engineering team to determine best approach for rendering computationally generated ultrasound images to support game play.
    - Defined data requirements to create pipelines that could support

Contact

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Portfolio
Github Profile

Skills

Programming Languages
C#, CSS, HTML, JavaScript, Python

Frameworks & Libraries
Axios, Bootstrap, Express, Django, Node.js, React, REST API Architecture

Tools & Platforms
Agile Dev, Figma, Git, GitHub, Jira, Miro, Postman, Thunderclient, Render.com

Databases
MongoDB, Mongoose

Game Engines
Unity 3D

Certifications

The Complete 2023 Web Development Bootcamp (Nov 2023)
Issued by Udemy, Instructor: Dr. Angela Yu

Shader Graph for Beginners (April 2023)
Issued by Udemy, Instructor: Penny De Byl

Unity Essentials Pathway (April 2022)
Issued by Unity Technologies

volumetric mesh data structures consisting of mechanical tissue data. These data were central to game design and play.
- Participated in rapid prototyping in engine (Unity).
- Concurrently functioned as Co-Principal Investigator working with SpaceX, KBR and TRISH, creating a just-in-time instructional ultrasound guide supporting SpaceX's Polaris Dawn mission.

Senior Biomedical Solutions Specialist (Oct 2019 - May 2022)

- Co-authored grant, awarding $1.5 mil from TRISH to support the development of the Virtual Human Simulator (VHS) platform. Functioned as Co-Principal Investigator.
  - Led team through the entire product lifecycle.
  - Collaborated with leadership to define product vision and roadmap.
  - Deeply collaborated with graphics engineering team to develop a real-time virtual ultrasound tech stack running in Unity (1st of its kind).

Biomedical Solutions Specialist (Aug 2017 - Oct 2019)

- Developed algorithms characterizing specific behaviors of biologic systems. Algorithms were foundational to game design.
  - Modeled the relationship between lung mechanics and gas transport.
  - Modeled the reversal of neuromuscular blockades used in anesthesiology. Model was validated in R. ***(See portfolio for math model and code).***
  - Worked with software engineers to implement algorithms in Unity.
- Led and was responsible for biomedical research and strategic oversight for Airway Ex and Pulm Ex.

Shirley Ryan Ability Lab, Chicago, IL — Graduate Researcher

August 2016 - June 2017

- Led the design of the ExoNET (previously MARIONET) - a passive, torque assisting exoskeleton - to aid in the rehabilitative process for recovering stroke patients.
- Developed mathematical models and algorithms to empirically optimize ExoNET parameters to achieve any desired torque profile for single and two-joint actuation using the MATLAB. *Paper published in 2020.*

Education

University of Illinois at Chicago (UIC)
MSc, Biomedical Engineering - Concentrations in Biomechanics and Neural engineering

BSc, Kinesiology - Concentration in Biomechanics

Publications

A Theoretical Framework for a Network of Elastic Elements Generating Arbitrary Torque Fields. *BioRob. IEEE, 2020 pp. 286-291.*

Awards

Moxie Award Winner (2022)
Presented by BuiltIn for outstanding contributions to the tech industry