Victoria Perizes, MSc

Experienced biomedical engineer and self-taught developer.

Relevant Project

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

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

- 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)

- Principal Investigator (PI) and lead grant author - awarded $1.1 mil from the Translational Research Institute for Space Health (TRISH) supporting the development of ultrasound training solutions for Astronauts participating in Artemis missions.
- Worked closely with internal and external (NASA, KBR, SpaceX) stakeholders to shape software solutions.
- Participated in rapid prototyping in engine (Unity, C#). Collaborated with other designers, artists, and developers on a daily basis.
- Collaborated with graphics engineering team to determine best approach for creating digital twins to further support digital ultrasound tech development.
  - Defined data requirements to create pipelines that could support volumetric mesh data structures consisting of mechanical and acoustic tissue data. These data were central to game design and play.
- Responsible for project scoping, product roadmap, and medical design of our ultrasound training solution for Artemis Astronauts.
- 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-Principal Investigator and Co-authored grant - awarded $1.5 mil from

Contact

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Portfolio
Github Profile

Skills

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

Frameworks & Libraries
Axios, Express, Django, Node.js, React

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

Databases
MySQL (SQL), MongoDB + Mongoose (NoSQL)

Game Engines
Unity 3D

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.*

TRISH to support the development of the Virtual Human Simulator (VHS) platform.

- Led team through the entire product lifecycle.
- Led product design.
- Collaborated with leadership to define product vision and roadmap.
- 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)

- Worked closely with our medical device and pharmaceutical customers to shape software solutions.
- Developed algorithms characterizing specific behaviors of biologic systems. Algorithms were foundational to game design.
  - Modeled the relationship between lung mechanics and gas transport using C#.
  - Modeled the reversal of neuromuscular blockades used in anesthesiology using R (programming language). ***(See portfolio for math model and code).***
- Led and was responsible for biomedical research and strategic oversight for Airway Ex and Pulm Ex, the first professional video games for Anesthesiologist and Pulmonlogists.

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.*

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

Awards

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