Suhrab Kurbanov

Software Engineer

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International Science Olympiad Medalist and experienced **Software Engineer** with strong data structure, algorithm, and problem solving fundamentals.

Professional Summary

- Extensive experience in development of scalable, responsive Web-based, Mobile and Client-Server Applications.
- Expert level skills in user interface (UI) component development using **HTML5**, **CSS3**, **JavaScript**, **TypeScript**, **React**, **Redux, Bootstrap, Sass, Less**.
- Strong experience in building powerful interactive visualization applications, which allow **multi-dimensional (2D, 3D, etc...) rendering** of large cross-domain data, through graphics computation on **GPUs** using **WebGL, GLSL** and WebGL-based framework, **Three.js.**
- Expertise in developing fast, responsive **GPU-Accelerated Interactive 2-D Painting, Note-Taking, Photo-Editing** Web Applications using **HTML Canvas, THREE.js, WebGL.**
- Solid knowledge of **CSS** and **Media Queries** to create **responsive websites** for different devices.
- Thorough understanding of web page **performance optimization techniques** and **PageSpeed insights**.
- Deep experience with front-end tools such as **Babel**, **Webpack**, **NPM**, **Yarn**, **Gulp**, **Grunt, ESLint, Prettify.**
- Experience with maintaining **relational Database** such as **PostgreSQL** and **NoSQL Database** such as **MongoDB**, using server-side languages such as **Python (Django)** and **Node.js (Express)**, respectively**.**
- Extensive experience in **version control** tools like **Git** and **GitHub**.
- Expertise in Object Oriented Programming (OOP) languages, such as **Python** and **Java**.
- Experienced in **Agile Scrum Methodologies** and working in **Sprint cycles**.
- **Detail-oriented**, **team player**, **self-motivated**, **dedicated**, open to **learn** and **share** the knowledge.

Experience

2019-02 - present

Fullstack Developer

Bluware, Inc

- Architected and Developed a **powerful, interactive, GPU-accelerated**, **multi-dimensional (2D and 3D) visualization front-end** of our Geo-Seismic Data Interpreter web application, called InteractivAI, using **HTML Canvas**, **TypeScript**, **WebGL**, **GLSL** and **Three.js** technologies.
- Extensively performed **geo-scientific research** and **developed novel methods** to build **smooth** and **pixel-perfect geo-seismic data-editing and interpretation tools,** taking advantage of Linear Algebra and well-established **algorithms** and **data structures** including but not limited to Dijkstra, Flood Fill, DFS, BFS, Cubic Interpolations, Bresenham's drawing algorithms, Edge Detection, Trees, Tries, Heap, Sets, HashMaps, Arrays and many more.
- Adapted and applied well-established **clean code techniques, design patterns,** and **object-oriented design techniques (OOP)** to solve commonly occurring problems throughout the software design and development in both front end and back end.
- Created and maintained a rich suite of **HTML5 UI components** used over our growing product lineup.
- Extensively used **HTML**, **CSS**, **React, TypeScript, Webpack** for the front end and **Python** for the back end.
- Evangelized good web architecture, to help educate other teams on web best practices.

2017-06 - 2018-08

Python Developer & Bioinformatics Programmer

North American University, Department of Computer Science

- Developed and designed **Genomics and Proteomics** web applications using **Python Django, React, TypeScript, Redux, Babel, Gulp, Webpack** and **Node.**
- Implemented **Advanced React Component Patterns** to make highly interactive, simple and flexible components.
- Extensively used **Lodash** library for sorting data in application's Table components.
- Built client- and server-side search components with paginated data fetched from Ensemble **REST API** using **Axios** library.
- Optimized components for maximum performance across a vast array of web-capable devices and browsers.
- Automated generation of input files for AutoDock Vina and visualization of these files with **Python** Molecular Viewer or PyMOL.

2015-11 - 2017-06

Fullstack Developer

Antivlia LLC

- Revamped UI and app interface of an electronics selling e-commerce site, with **25,000+** unique visitors per month, using **Python Django**, **ReactJS, JavaScript, ES6, HTML5, CSS3,** and **Redux.**
- Contributed to the development of mobile e-commerce app using **React Native** and **Redux.**
- Developed online deal locator, catcher, detector and checkout application using **Python.**
- Developed UI and backend of PC price predicting web app using **React** and **Python.**
- Developed web scraping programs using **Python** for collecting competitive data.
- Designed and developed **Python** scripts that **automates** inventory purchasing, listing and selling.
- Optimized sourcing efficiency of products, resulting in a **significant annual revenue increase.**

2012 - 2017

Graduate Research Assistant & Bioinformatics Programmer

Baylor College of Medicine, Texas Childrens Hospital

- Extensively used Python and R to analyze obtained results from research and performed statistical analysis.
- Identified role of the CD1d-restricted Natural Killer T cells in the immune response to Salmonella-based recombinant cancer vaccines
- Developed a cancer vaccine using attenuated Salmonella and type III secretion system to deliver recombinant tumor-associated antigens

Skills

➢ **Languages:** HTML5, CSS3, JavaScript, TypeScript, GLSL, Python, Java

➢ **Tools, Frameworks, and Libraries:** HTML Canvas, ReactJS, Node.js, WebGL, THREE.js, Django, Redux, Bootstrap, Material-UI, Tachyons, Semantic-UI, Webpack 5, Grunt, Gulp, REST, RESTful

➢ **Databases:** PostgreSQL, MongoDB

➢ **Version Control:** Git, GitHub

➢ **Testing Tools and Frameworks:** PyTest, Jest, Enzyme

Education

2018 - 2021

North American University, Houston, TX

Master of Science in Computer Science

GPA: 3.55 / 4.0

2011 - 2017

Baylor College Of Medicine, Houston, TX

PhD Candidate in Immunology

2007 - 2011

Fatih University, Istanbul, Turkey

Bachelor of Science in Biology with a minor in Bioengineering

GPA: 3.87 / 4.0

Honors: Ranked **1st** in the department throughout 4 years

Recent Personal Websites and Fun Projects

Master's Capstone: GPU-Accelerated Interactive 2-D Painting, Note Taking and Photo Editing Web Application (React, TypeScript, WebGL, GLSL; haven't deployed yet)
Portfolio (Django, JS, *http://SuhrabK.com*)
GenomeTools (Django, JS, *https://genomics-tools-app.herokuapp.com/*)
MemoryGame (*https://suhrabjan.github.io/memoryGame/*)
SnakeGame (*https://suhrabjan.github.io/snakeGameForMyKids/*)
GravitationalStarShower (*https://suhrabjan.github.io/star_shower/*)
DynamicResponsiveCircles (*https://suhrabjan.github.io/DynamicResponsiveCircles/*)
BulkImageResizer (*https://pypi.org/project/BulkImageResizer/*)
RSSReader (*React Native, haven't deployed yet*)
CarBookingApp (*React Native, haven't deployed yet*)
ImageSharingApp (*React Native, haven't deployed yet*)
GuitarTunerApp (*React Native, haven't deployed yet*)
MessagingApp (*React Native, haven't deployed yet*)
ParrotInTheCaveGame (*React Native, haven't deployed yet*)
E-CommerceApp (*React Native, haven't deployed yet*)
SocialWebsite (ReactJS and Django)
OnlineShop (ReactJS and Django)
E-LearningPlarform (ReactJS and Django)

Awards and Achievements

2007 Won **Bronze Medal** in International Biology Olympiad, Saskatoon, Canada

2006 Honorable Mention in International Biology Olympiad, Rio Cuarto, Argentina

Gold and Silver medals in National Biology Olympiad of Turkmenistan

Publications

2017 “Development of an Effective Cancer Vaccine Platform Using Attenuated Salmonella Typhi”. Xin Xu, Michael S Wood, **Suhrab Kurbanov**, James E Galen, and Leonid S. Metelitsa. Molecular Therapy, 2017 May, 25(5):359-359

2016 “Development of an Effective Cancer Vaccine Platform Using Attenuated Salmonella To Deliver Recombinant Tumor-Associated Antigens.” Xin Xu, Michael S Wood, **Suhrab Kurbanov**, Linjie Guo, Xiuhua Gao, James E Galen, and Leonid S. Metelitsa. Molecular Therapy, 2016 May Volume: 24 / Pages: S74-S75.

2014 “Development of an Effective Cancer Vaccine Using Attenuated Salmonella and Type III Secretion System to Deliver Recombinant Tumor-Associated Antigens.” Xin Xu, Wael Abdel Halim Hegazy, Linjie Guo, Xiuhua Gao, Amy N. Courtney, **Suhrab Kurbanov**, Daofeng Liu, Gengwen Tian, Edwin R. Manuel, Don J. Diamond, Michael Hensel, and Leonid S. Metelitsa. Cancer Research, 2014 Nov 1;74(21):6260-70.

2013 “Potent Therapeutic Activity of a Novel Salmonella-based Cancer Vaccine. ” Xin Xu, Wael Hegazy, Xiuhua Gao, Linjie Guo, Amy Courtney, **Suhrab Kurbanov**, Micheal Hensel, and Leonid S. Metelitsa. Journal of Immunology, 2013, 190, 45.5

Reference

References are available upon request