Boris Boyanov Tomov

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EDUCATION

University of California, Berkeley

2021 - 2025

Data Science + Robotics, Computer Science minor

RELEVANT COURSEWORK

Structure, Design and Implementation of Computer Programs, Data Structures and Programming Methodology, Designing Hardware Informational Systems I & II, Discrete Mathematics and Probability Theory, Data Analysis, Inferential Thinking and Intro to Machine Learning, Intro to Artificial Intelligence, Efficient Algorithms, Principles of Data Science, Designing, Visualizing and Understanding Deep Neural Networks, Design of Microprocessor-Based Mechanical Systems

WORK EXPERIENCE & PROJECTS

Project Manager & Full-Stack Web Developer @ Code for Good Berkeley - 2023 - 2024

AWS EC2 & RDS, Django, React JS, MySQL, Google Maps API & email automation, Front-end Design

Led a team of software engineers to develop a scalable web platform for Linens N' Love Connected (an International non-profit organization). Our product allowed the organization to level up its outreach and leverage the logistical difficulties of managing a large user base consisting of over a thousand volunteers, resource donors, and administrators across 15 countries worldwide. Tech stack: Django, React JS, MySQL, AWS EC2 Ubuntu & RDS, Google Maps API & Authorization, Automated Onboarding Emails

IOS Mobile Developer @ ASUC UC Berkeley - April 2025 - Now

React Native, IOS, App Store, Front-end Design, UX & UI

- Developed an internal React Native mobile application for the Event Services Department, to assist with onboarding and training processes for new and continuing hires.
- Architected a streamlined interface and content hierarchy that enables fast, intuitive retrieval of policy information, enhancing overall usability and engagement.
- Currently handling end-to-end deployment of the iOS application to the App Store, including provisioning, code signing, TestFlight testing, and submission approval.

Full-Stack Web Developer & Main Website Maintenance @ Code For Good – 2024 - 2025

Website: Code For Good Berkeley | React JS, Hosting, Front-End Design, Airtable API

- Revamped UC Berkeley's tech club Code For Good's official website, integrating animations & front-end changes, application forms, cloud data storage as well as Airtable integration for contacts and donation tools.
- Assisted with both student org. domain & Github hosting.
- Performed annual application updates and general maintenance.

Hugging Face DB, APIs & ML @ Recursive Pioneers - 2024 - 2025

Publication: <u>ELALCANCE-Robotic System</u> | HuggingFace, APIs, Data Cleaning, ACT Policy Training & Robotics

- Successfully developed a highly efficient low-cost robotic system for Tukuypaj, a non-profit organization supporting quadriplegic individuals in Chile, addressing manpower shortages during mealtimes. As a software side lead I developed scripts for Computer Vision open-mouth detection, which utilize MediaPipe model inference to recognize facial landmarks and allow the user to initiate feeding movement.
- Optimized data collection scene design and created a data pipeline to HuggingFace DB to gather large sets of teleoperation data for feeding movements. Preprocessed and cleaned the gathered data. Employed Reinforcement Learning methods to train an ACT feeding policy with high validation accuracy, generalizing feeding tasks, and making the system perform well in a variety of different environmental settings.
- Spring 2025: our project was referenced in a course material for Introduction to Cognitive Science at UC Berkeley.

Leadership/Impact

Internal Vice President @ Code for Good Berkeley - May 2024 - May 2025

- Improved internal club operations, structure, and technological impact achieving almost 100% member retention rate, bumping club budget by more than 175%, and sustainably scaling operations through successful recruitment strategies, establishing and leading the club's first-ever Robotics Research branch.
- Contributed to wider campus recognition and professional involvement by negotiating partnerships with external tech organizations like TikTok for Developers <u>TikTok Partnership</u>, Planned Parenthood, Think of Us, Carbon Sustain (Berkeley Skydeck), Linens N' Love Connected, and more.

Programming Languages/Skills

WebDev & SWE: AWS (EC2, S3, RDS, Lambda & more), SQL & NoSQL Databases, HTML, CSS, JS, Node JS, React JS, React Native, APIs, Django, Expo Go, **Data Science & ML:** Models, Optimization & Analysis, PyTorch & TensorFlow, MediaPipe, Neural Networks, RL: ACT, policy learning & iteration. **Hardware:** Microcontrollers & Microprocessors, Servomotors, CADing: Fusion, Autodesk 3Ds Max, 3D Printing