

Alex Rasla

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EDUCATION

University of California, Santa Barbara, Santa Barbara, CA

September 2017 - June 2022

M.S. in Computer Science | GPA: 3.97

B.S. in Computer Science | GPA: 3.75

Research Lab: Bionic Vision Lab

Relevant Coursework: Adv. Data Structures & Algorithms, Adv. Distributed Systems, Adv. Cryptography, Adv. Computing on Encrypted Data, Adv. Computer Vision, Mixed Reality, Bionic Vision, Capstone, DL for Machine Translation, ML on Graphs

Awards/Certificates: HRL Fellowship Recipient, Technology Management Certificate, Dean's Honors List

RESEARCH & PERSONAL PROJECTS

Bionic Vision VR Simulation, Bionic Vision Lab, UC Santa Barbara

September 2021 - Present

- Studied the effectiveness of structural rooms layouts for Simulated Prosthetic Vision (SPV) when navigating a room
- I created a user study in VR that simulates 4 different simulated prosthetic visual modes combining depth and structural layouts
- Analyzed data on subjects' ability to navigate through 6 different rooms; implemented using Unity, Python, C# for HTC Vive

SocialSensor, UC Santa Barbara

September 2020 - March 2021

- A video conferencing web application for people w/ ASD that detects real-time sentiment of participants using machine learning
- Node.js, React, Twilio, Python, and facial and speech sentiment NLP models to create system to get accurate sentiment of users

Interactive Agent in VR, UC Santa Barbara

January 2022 - March 2022

- Built multiple interactive agents to converse with using NLP, each having a unique personality & realistic immersive environment
- Created using OpenAI's GPT-3 & the Oculus VoiceSDK using Unity; deployed on the Oculus Quest 2

Volleyball Outcome Prediction, UC Santa Barbara

March 2022 — June 2022

- Created & optimized set of Graph NNs to test the effectiveness of predicting volleyball rally outcomes & set locations
- Gathered & preprocessed UCSB volleyball data; experimented with various GCN & GAT models; built using Pytorch

Networking Email Website, UC Santa Barbara

April 2022 — Present

- Created a personal website to input emails and companies and automatically send periodic emails to reach out/follow up
- Developed using HTML (Bootstrap), CSS, JavaScript, Express/Node.js, MySQL for database, Postman for development

WORK EXPERIENCE

HRL Laboratories, *Masters Intern*, Malibu, California

June 2021— September 2021

- Developed a convolutional LSTM autoencoder to detect novel scenarios for an autonomous driving system
- Tuned the individual parameter layers and a created custom loss function in Tensorflow to optimize its reliability and stability
- Ran dozens of CARLA simulation tests to evaluate the accuracy and applicability of the system in real world scenarios

Wimet, *Software Development Intern*, Buenos Aires, Argentina

June 2019 — August 2019

- Worked alongside the CEO and CTO/Lead Developer to build the startup's website
- Created the backend for their administrative site, allowing the company to easily access their events
- Learned to use Node.js, MySQL, HTML, PHP and utilized the Laravel framework

LEADERSHIP

UCSB Department of Computer Science, *Peer Advisor*

September 2019 — June 2020

- Student advisor and departmental assistant for the UCSB computer science department
- Helped students plan schedules and change majors, assisted faculty with logistical issues, informed undergraduates about campus opportunities

SKILLS

Programming Languages: Python, JavaScript, Solidity, React, Rust, C++, C#, Java, HTML, Swift, CSS, MIPS Assembly

Interests: Blockchain Development, Computer Vision, Mixed Reality, Backend Development, Computer Security, Cloud Computing

Technologies: Node.js, Docker, PyTorch, OpenCV, Tensorflow, iOS SDK, MySQL, Laravel, PHP, MongoDB, Postgres SQL

Languages: Fluency in English, Slovak, and Conversational Spanish