# Anita Ruangrotsakun

ruangroc@oregonstate.edu | ruangroc.github.io | linkedin.com/in/anita-ruangrotsakun

## Education

**Oregon State University** *Corvallis, OR | Fall 2017 -- present*

- Accelerated M.S. in Computer Science (GPA: 4.0)
  - Expected graduation Winter or Spring 2023
- B.S. in Computer Science (Systems), Statistics Minor (GPA: 3.94)
  - Graduated in March 2022

## Academic Experience

**Graduate Teaching Assistant** *Corvallis, OR | March 2022 – present*

- I graded exams and assignments, held office hours, and helped create homeworks for two courses: Computer Architecture and Programming Language Fundamentals.

**DIV Lab Undergraduate Researcher** *Corvallis, OR | July 2020 – March 2022*

- Please see the Publications section on the next page for details.
  - DARPA-funded Explainable AI (XAI) – Three papers published [2, 3, 4]
  - VIVA – One paper submitted to VIS 2021 [5]
  - DendroMap – One paper under review for VIS 2022 [1]

**OSU College of Engineering Peer Tutor** *Corvallis, OR | November 2019 – March 2022*

- I helped students review concepts, create code designs, and debug their programs (C, C++, Python, JavaScript) for a variety of computer science classes, including the introductory CS series, data structures, algorithms, web development, and databases.

## Industry Internship Experience

**Stripe Software Engineering Intern** *Seattle, WA | June – September 2022*

- I enhanced a widely-used, internal TypeScript library for collecting frontend analytics data to improve developer productivity; incorporating this library now takes hours, not days.
- I upgraded the Stripe Dashboard, a customer-facing web application, to use the new version of the library, meaning ~200 million analytics events traverse the upgraded library code paths everyday.

**Leviton Software Engineering MECOP Intern** *Tualatin, OR | June – December 2021*

- I implemented an automated certificate manager using the Lemur framework on AWS EC2 and two proof of concept applications to prove integration with other project components.
- I completed an exploratory project to evaluate the usage of machine learning and time of flight sensors for smart, privacy-protecting person detection.

**Google Engineering Practicum Intern** *Mountain View, CA | June – September 2019*

- I developed full-stack features to upload, mutate, delete, and visualize location tagged data using TypeScript, protocol buffers, C++ for the Network Planner web application
- I contributed to a design document to evaluate data visualization techniques (points, heat map, others) and presented my work to peers and mentors at the end of the summer.

## Technical Skills

**Web Development** ~ React, Svelte, Flask, NodeJS, D3.js, HTML, CSS, JavaScript, TypeScript, Python
**Other Tech Tools** ~ Git, R, pandas, C/C++, Figma, SQL, Docker, Amazon AWS, Google Cloud Platform

## Honors and Awards

**College of Engineering Dean's List** *2018 – 2021*
**URSA Engage Award**, $750 award for a 15-week research project *2019*
**Drucilla Shepherd Smith Scholastic Award** *2018*
**Various College of Engineering and EECS Scholarships**, $8500 *2017 – 2021*
**Finley Academic Excellence Scholarship**, $6000 for 4 years *2017 – 2021*

## Publications

### [1] Visual Exploration of Large-Scale Image Datasets for Machine Learning with Treemaps

Donald Bertucci, Md Montaser Hamid, Yashwanthi Anand, *Anita Ruangrotsakun*, Delyar Tabatabai, Melissa Perez, and Minsuk Kahng. Submitted to VIS 2022 (Under review). [arxiv]

- I worked with Melissa to evaluate image classification datasets and set up Google Cloud Platform (GCP) Storage buckets for storing train and test images.
- I deployed the Svelte application using GCP virtual machines for the user study.
- I contributed to the Use Cases section of the paper and helped edit other sections.
- I created the demo video that accompanied the paper submission.

### [2] Beyond Value: CheckList for Testing Inferences in Planning-Based RL

Kin-Ho Lam, Delyar Tabatabai, Jed Irvine, Donald Bertucci, *Anita Ruangrotsakun*, Minsuk Kahng, and Alan Fern. ICAPS 2022 (To Appear). [arxiv]

- I worked with Jed to implement NodeJS functions for verifying that the JSON files representing an RL agent's decision trees for a set of StarCraft 2 game replays were correctly entered into a SQL database.
- I implemented NodeJS functions for handling HTTP requests for CRUD operations, as well as several accompanying unit tests.

### [3] "Why did my AI agent lose?": Visual Analytics for Scaling Up AAR/AI

Delyar Tabatabai, *Anita Ruangrotsakun*, Jed Irvine, Jonathan Dodge, Zeyad Shureih, Kin-Ho Lam, Margaret Burnett, Alan Fern, and Minsuk Kahng. IEEE VIS 2021. [doi] [pdf]

- I wrote a Python script to extract action vectors from JSON files representing an RL agent's decision trees throughout a StarCraft 2 game replay.
- I worked with Jed, Delyar, and Minsuk to implement an overview+detail interface design.

### [4] "No Clear Winner" to an Effective XAI Process: An Empirical Journey

Jonathan Dodge, Andrew Anderson, Roli Khanna, Jed Irvine, Rupika Dikkala, Kin-Ho Lam, Delyar Tabatabai, *Anita Ruangrotsakun*, Zeyad Shureih, Minsuk Kahng, Alan Fern, and Margaret Burnett. AI Letters 2021. [doi] [pdf]

### [5] VIVA: Visual Exploration of Videos with Human-AI Interaction

*Anita Ruangrotsakun*, Dayeon Oh, Thuy-Vy Nguyen, Kristina Lee, Mark Ser, Arthur Hiew, Rogers Ngo, Zeyad Shureih, Roli Khanna, Minsuk Kahng. Unpublished. [pdf]

- I led the capstone project team and helped coordinate with the DIV Lab team.
- I implemented several full-stack features, such as naming and saving labeled segments, loading labeled segments into the labeling timeline, displaying bounding boxes over the video player, displaying captions for each frame, and filtering frames by label.
- I worked with Dayeon and Thuy-Vy to conduct a qualitative user study.
- I contributed to the Usage Scenarios section of the paper and helped edit other sections.