

# RAYMOND “BUCK” BUKATY

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## EDUCATION

### Stanford University

B.S. Candidate in Computer Science, expected June 2020 - Cumulative GPA 4.02/4.00

#### *Courses of Interest:*

Principles of Computer Systems, Design and Analysis of Algorithms, AI - Principles and Techniques, Convolutional Neural Networks, Data Management and Data Systems, From Languages to Information (Intro to Natural Language Processing)

## WORK EXPERIENCE

### **Research Intern**, Stanford Vision and Learning Lab, Stanford CA *June to August 2018*

- Interned with Ranjay Krishna in lab of esteemed AI Research Director Fei-Fei Li, contributing to the Engagement Learning project which seeks to improve computer vision algorithms by applying machine learning to online interactions with social media users.
- Implemented, gathered data for, and trained convolutional neural network models for filtering unwanted images from the system’s social media uptake.
- Performed experiments to validate the efficacy of our “question informativeness” metric, a novel research contribution used to generate and ask useful questions on social media.

### **Web Development Intern**, Boundless Mind, Venice CA *June to September 2017*

- Designed and constructed a web Business Intelligence dashboard for this early stage company featured on Anderson Cooper 360 which provides customers AI tools for user retention.
- Integrated and visualized data from the company and from the Pipedrive API, allowing for real time monitoring of the sales and implementation pipeline for all customers and prospects.
- Quickly iterated on feature requests and user experience feedback from sales team using HTML, CSS, JavaScript and JQuery.

### **Research Intern** – Cambridge University Synthetic Biology Department, England *Summer 2014*

- Helped to create a low-cost biosensor for the detection of arsenic in groundwater. Arsenic poisoning is a major issue in rural areas of India and Nepal.
- Used DNA sequence editing software to design “primer” segments for Polymerase Chain Reaction (PCR) experiments.
- Learned and utilized wet lab procedures to genetically modify Bacillus microorganisms.

## PROJECTS

### **AI Game Playing Agent** – [bbukaty.github.io/CoNBot](http://bbukaty.github.io/CoNBot) *Spring 2018*

- Collaborated with a partner on major assignment in course on Convolutional Neural Networks to create a game-playing Reinforcement Learning agent in PyTorch.
- Built a pipeline to record human gameplay data from *Crypt of the NecroDancer*, which was used to bootstrap the model’s understanding of visual information.
- Analyzed our model’s performance and behaviors and investigated related work in a 10-page report with accompanying poster for course presentation.

### **3D Puzzle Game** – [bbukaty.github.io/LaserLair](http://bbukaty.github.io/LaserLair) *Winter 2018*

- Led a team of four students to create a puzzle game for course on Interactive Computer Graphics.
- Implemented core game logic in C#, most notably the pipeline for updating blocks in the level in response to player actions.
- Collaborated with the two visual designers on the team during the asset design process, and helped integrate their finished models and animations into the game.

## SKILLS

- Python with NumPy and PyTorch, C++
- Proficient with web front-end tools (HTML, CSS, Javascript, jQuery)
- Experience with SQL and data analysis using Google BigQuery
- Familiarity with game and VR development in Unity (C#), programmatic art with Processing, and music production in FL Studio 12