

# Vinija Jain

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## EDUCATION

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### Stanford University

Artificial Intelligence Professional Program

2020 – 2023 (expected)

- Courses: Machine Learning; Natural Language Processing with Deep Learning.

### Syracuse University

M.S. in Computer Science

2013 – 2015

- Courses: Algorithms and Data Structures, Machine Learning; System Design; Operating Systems; Databases;

### University of Maryland – College Park

B.A. in Economics

2009 – 2013

- Courses: Object Oriented Programming; Calculus I and II; Probability Theory; Statistics.

## EXPERIENCE

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### Oracle Cloud AI

Cloud AI Engineer working on Object Storage

Santa Clara, CA

Nov 2020 – Present

- Using Machine Learning to model server capacity data to better be able to predict outages.
- Building a recommendation system for predicting object storage space based on customer usage patterns.
- Predicting server health by applying BERT to parse large sets of logs from various logical VMs running on a physical server by analyzing server load patterns to avoid server crashes.
- Maintaining a set of curated ML workloads comprising of training, fine-tuning and inference jobs to benchmark server performance levels.
- Implementing unit and end-to-end testing that ensures success of our current latency and storage models.
- Owning flows that compile server capacity data into dashboards to display metrics for future utilization.

### Palo Alto Networks

Software Engineer, Licensing NPI

Santa Clara, CA

Jun 2018 – Nov 2020

- Worked as a microservices Software Engineer on licensing cloud cybersecurity products.
- Implemented and designed Role Based Access Control for apps.paloaltonetworks.com with a unique algorithm running in linear time.

### Apple, Inc.

Software Engineer Contractor

Sunnyvale, CA

Nov 2017 – Jun 2018

- Worked on Apple's internal software with technologies such as MongoDB, Java, Kafka.
- Worked on transitioning monolith application to microservices architecture.
- Aided in debugging customer issues by providing quick code fixes.

### Vitech Systems Group

Software Engineer Associate

New York City, NY

Mar 2017 – Oct 2017

- Enhanced the core V3 Product for the pension module using Java technologies.

### Razorfish(formerly Rosetta)

Software Engineer Associate

Cleveland, OH

Jul 2015 – Mar 2017

- Implemented business logic solutions for a B2B and B2C commerce website using the Hybris Platform.

## PUBLICATION

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- [1] A. Chadha and V. Jain, "iReason: Multimodal Commonsense Reasoning using Videos and Natural Language with Interpretability", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022, under review.

## PROJECTS

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### **Question Answering with NLP**

- Implemented a question answering binary classification system using Stanford Question Answering Dataset (SQuAD) with a 75% F1 score using BERT architecture.

### **Detection of Gastrointestinal diseases with Endoscopy videos**

- Used Endoscopy videos and ultrasounds of the Gastrointestinal tract to be able to detect abnormalities including polyps and esophagitis with 91% accuracy by finetuning the YOLO architecture.

### **Netflix Recommender System providing movie recommendation based on search history**

- Built a movie recommender system using Collaborative Filtering and Content-Based Filtering with an F1 score of 51%.

### **iReason Commonsense Reasoning**

- Created a multimodal framework that utilized the video and text modality to generate commonsense knowledge using BERT and GPT-2 architectures with better recall than prior state of the art. This led to a publication.

### **Applied BERT to translate English to a low resource language**

- Applied Multilingual BERT to translate English to Hindi with a BLEU score of 0.31.

### **Bag of Words meets Bags of Popcorn from Kaggle.com**

- Predict the binary sentiment of a movie from Netflix's dataset using Word2Vec and measured accuracy with ROC curve.