TANMAY GHAI

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EDUCATION

University of Southern California July 2020 - December 2021
Master of Science in Computer Science

University of California, Berkeley August 2015 - May 2019
Bachelor of Arts in Computer Science

Relevant Coursework: Data Structures, Machine Learning, Databases, Networking, Operating Systems, Artificial Intelligence, Discrete Math and Probability Theory, Linear Algebra, Data Science, Computer Graphics

EXPERIENCE

Workday July 2019 - Present
Software Development Engineer *Pleasanton, CA*

· I am a back-end developer as part of a full-stack feature team in the Platform side of Developement @ Workday. We are building robust, scalable frameworks to enable our platform to ensure millions of users continue to have the best experience possible on Workday.

Workday May 2017/2018 - August 2017/2018
Software Engineering Intern *Pleasanton, CA*

· In 2018, worked on a full-stack, key release feature for WD32 to implement a **visual, interactive scheduler for team scheduling and workforce management**. Collaborated with product management, UX, design, and other engineering teams to design, develop, and test the scheduler.

Tech Stack: Java, ReactJs, Javascript

· In 2017, worked on a multi-layer, **cross stack debugging microservice** for developers to detect errors in the platform (scaled and dealt with millions of transactions per hour).

Tech Stack: Java, SpringBoot, Apache Kafka, Kafka Streams, ELK Stack,and MongoDB

ServiceNow May 2016 - August 2016
Cloud Platform Development Intern *Santa Clara, CA*

· Generated key reports on **user behavior and usage analytics using machine learning** via Matlab, Kibana, and Tableau to analyze customer usage trends on the platform

· Wrote scripts, scrapers, and code to collect, clean, manipulate, and analyze data for over 500+ customers.

RESEARCH EXPERIENCE

Integrated Circuits & Systems Group, Boston University
RISE Research Assistant *Boston, MA*

· Conducted research and trained **convolutional neural networks (CNN's)** for facial image recognition and detection under **Prof. Ajay Joshi**.

· Simulated and tested with facial images of over 100+ graduate students from CMU, UC Berkeley, and UC Irvine (reached a classification accuracy of 74-77%).

Wang Lab, UC San Diego
AC Research Assistant *San Diego, CA*

· Ran simulations and conducted tests of **RNA-seq on mice cells** and learned about single cell transcriptomics and its importance for gene expression

· Supervised by **Dr. Rizi Ai and Dr. Wei Wang** in Dept. of Biochemistry at University of California, San Diego

PROJECTS

Real Time N-Body Cosmological Simulation 1000+ lines, ThreeJS + WebGL

- As part of CS184 at UCB, built a **real-time n-body simulation** in three.js and WebGL.
- Includes live depictions of gas clouds coalescing into stars orbiting around a black hole in the center of a disk galaxy.
- User can customize the number of galaxies, opacity of materials; adjust the gravitational strength; choose from various cubempa backgrounds; and use camera controls form pan and zoom across the scene. The project is live with a full report at: https://aparikh98.github.io/CosmologicalSimulation/

NBA Award Predictor via Machine Learning Algs 700+ Lines, Python

- Using data from basketball-reference.com, scraped NBA award and statistical data from 2000-2019.
- Created train-test data through splitting with various levels of cross-validation. Then, **applied 5 different Machine Learning models** to train and test results (Linear Reg, Lasso/Ridge Reg, Linear Support Vector Reg, Decision Tree Reg, Gradient Boosting).
- Accuracy varied from 74-82% overall, results live on github.com/tanmayghai18/NBA-MVP-Predictor

Protein Structure Reconstruction w/ Electron Microscopy 1000+ Lines, Python

- Using Fourier transform theory and the backprojection algorithm, **reconstructed 2D zika virus** images to **create a 3D interactive visualization**.
- Collaborated with CS, Math, and Biology students from UC Berkeley; wrote a final report which is published on github.com/tanmayghai18/ ProteinStructureReconstruction

TECHNICAL SKILLS

Programming Languages	Python, Java, C++, MySQL, Javascript, Matlab, LaTeX, MySQL, Scala, React, HTML, CSS,
Frameworks	TensorFlow, Spring, SpringBoot, Apache Kafka, ELK Stack
Operating Systems	MacOS, Linux, Windows
Interests	Sports (basketball and tennis), Hindi music, traveling, debate