

Abhinav Jindal

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EDUCATION

Master of Science (Honors), University of Southern California
Computer Science (CGPA: 4.0/4.0)

August 2022 – May 2024
Los Angeles, California

Bachelor of Technology, Indian Institute of Technology (IIT), Ropar
Computer Science and Engineering (CGPA: 9.05/10)

July 2016 – May 2020
Punjab, India

PROFESSIONAL EXPERIENCE

Software Engineer

USC Information Sciences Institute

October 2022 – Present

Los Angeles, California

- Managed the central backend service for KNIC, an innovative system revolutionizing knowledge management through a dialogue-driven agent for knowledge capture and dissemination.
- Designed specialized prompts for OpenAI GPT and other LLMs, including Code Llama and CodeT5, to facilitate code description, question and answering tasks, and confidence evaluations.
- Implemented Elasticsearch and Faiss APIs to efficiently retrieve relevant documents from the knowledge base.

Graduate Software Engineer Intern/Co-op

Intel

May 2023 – January 2024

Santa Clara, California

- Optimized speed and prevented future regressions of the Cobalt graphics simulation module.
- Analyzed the code-base using VTune to identify and address bottlenecks, resulting in a 300% boost in CPU frequencies.

Software Engineer I

The D.E. Shaw Group (Schrodinger)

June 2020 – August 2022

Hyderabad, India

- Developed data pre-processing, computational, and visualization tools to accelerate drug discovery and material science.
- Directed Admin Panel's React transition and containerization, enhancing tech-stack and development experience.
- Revamped LDL service CI/CD pipeline using Docker and Jenkins for seamless interaction between LD and ML models.
- Undertook Admin and LDL microservice architecture migration, focusing on Kubernetes deployments and SSO tasks.

Data Science Intern

Linkbal Inc.

May 2019 – July 2019

Tokyo, Japan

- Developed predictive models using CatBoost and deep learning, achieving a 92% accuracy rate in event ranking.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, TypeScript, Docker, Kubernetes, SQL, Kotlin, HTML/CSS

Frameworks: React, Flask, FastAPI, MongoDB, Django, Hibernate, PyTorch, Tensorflow, Keras, Elasticsearch, OpenCV

Developer Tools: Git, GCP, Jupyter Notebook, Colab, MATLAB, Jenkins, VTune, Android Studio, Visual Studio

Relevant Courses: Algorithms, Data Structures, Database Systems, Web Technologies, Game Development, Machine Learning, Artificial Intelligence, Natural Language Processing, Computer Vision, Operating Systems, Computer Networks

PROJECTS

Formality Transfer and Offensive Language Mitigation

| *Python, OpenAI GPT, LLM, NLP*

- Executed fine-tuning of OpenAI's LLM GPT-3 with a custom dataset, aiming to transform toxic, informal sentences into refined and considerate formal expressions.
- Designed a dataset with 500 instances for sentence reformation, attaining fluency and performance on par with humans.

Ebay Search Portal

| *React, Flask, Android Studio, Kotlin, MongoDB, GCP*

- Developed and deployed a web and android application on GCP for efficient searches across millions of eBay products.
- Integrated multiple APIs, including eBay search, IPinfo, and Google, to offer comprehensive product details.

Entity Possession Game

| *C#, Unity, Google Analytics*

- Created an innovative platformer game featuring entity possession mechanics, where players can control various entities, each with unique abilities, to strategically navigate and complete challenging levels.
- Conducted user testing sessions to gather feedback, leading to iterative improvements enhancing game playability.

Medical Segmentation Decathlon

| *Python, PyTorch, Keras, Computer Vision*

- Built a single 3D segmentation model across different tasks and adapted to unseen tasks without annotations.
- Trained U-NET FCN-based model along with 3D image processing techniques, surpassing Dice scores above 90%.

HONORS AND AWARDS

- Admitted in the USC MSCS **Honors** for maintaining perfect grade.
- Merit Scholarship at IIT Ropar for securing **AIR-1343 (99.91 %ile)** in IIT-JEE and **State Topper** in JEE Mains.