SHIVANSHU DWIVEDI

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EDUCATION

Trinity College - Hartford, CT　　　　　　　　　　　　　　　　　　　　Aug 2022 - May 2026
Bachelor of Science in Computer Science & Physics　　　　　　　　　　　　　*GPA: 4.12/4.00*

- Relevant Coursework: Data Structure & Algorithms **(Java)**, Object-Oriented Programming **(Python, Java)**, Building Cloud Native Applications **(Docker, Kubernetes, Google Cloud)**, Open-Source Software Development **(Spring Boot, MySQL)**, Website Development **(Next.js, React.js, Vite, Firebase)**, Mathematical Methods Of Physics **(NumPy, Sklearn, PyTorch)**.
- **Teaching Assistant** : Mentored and provided comprehensive guidance to **50+ students** in Introduction to Computer Science & Discrete Mathematics for 3 consecutive semesters.

SKILLS

Programming Languages: Python, Java, JavaScript, TypeScript, MATLAB, Dart, Swift
Frameworks: Flask, Spring Boot, NodeJS, NextJS, Express, Django, React, Flutter
Developer Tools: Git, Docker, Kubernetes, AWS, Google Cloud, Firebase, MySQL, Supabase, MongoDB, HTML, CSS
Libraries: PyTorch, NumPy, SciPy, Sklearn, TensorFlow, Keras, Pandas, Matplotlib, Beautiful Soup

EXPERIENCE

Software Engineering Intern　　　　　　　　　　　　　　　　　　　　　　May 2024 – Present
Radical AI - Remote

- Developing ReX, an AI Coach, utilizing **OpenAI, Node.js, Express and React** to offer personalized career guidance.
- Saved **300+** developer hours by implementing effective AI-driven coaching solutions for a team of **10+ members**.
- Deployed the product using **Amazon AWS** and improved the **CI/CD pipeline** for streamlined updates and maintenance.

Machine Learning Research Assistant — Predicting Disk Management Failures　　Jan 2024 – Present
Trinity College - Hartford, CT

- Built machine learning models using **Sklearn, Keras, TABGAN, & Transfer Learning**, increasing SSD & HDD failure prediction accuracy by **30.4% (63.7% to 94.1%) on 4TB** of **Alibaba Inc** data.
- Implemented **feature selection**, reducing model training time by **30%** and enhancing prediction reliability.
- Processed and analyzed 1 million+ data points, leading to a **7% improvement** in maintenance scheduling efficiency.

Machine Learning Research Assistant — Prediction & Modelling of Supernova Explosion　　Jan 2024 – Present
Trinity College - Hartford, CT

- Developed time-series models using **LSTM, RandomForest, & Transfer Learning**, in collaboration with **North Carolina State University**, increasing supernova prediction accuracy by **15.4%**.
- Applied **Monte Carlo & Fermi Integrals** to enhance model runtime performance by **20%**.
- Deployed a RESTful application in **Flask** on **Google Cloud** using **Kubernetes & Docker** for scalable access to prediction results.

PROJECTS

TechSwipe *(JavaScript, Swift, Node.js, Express.js, Firebase Firestore, SwiftUI, Tensorflow)*　　GitHub

- Developed a backend with **Node.js**, **Express.js**, and **Firebase Firestore**, enhancing server response time by **35%**.
- Implemented swiping features using ML algorithms **(Word2Vec & Epsilon Greedy Models)**, **eBay API**, and webscraped **Google Shopping** data, resulting in a **70+ GB database with 100+ collections**.
- Conducted A/B testing with **80+** users, optimizing the UI and reducing login issues with **SwiftUI** and **Firebase Authentication**.

FUT.AI *(Python, JavaScript, React, Vite, JoyUI, Flask, Supabase, Docker, Kubernetes)*　　GitHub

- Developed a full-stack web app for **8+ soccer leagues**, using **React** and **OpenAI GPT-3.5**.
- Implemented 4 microservices with **Docker** and **Kubernetes**, managing **900+ fixtures across 7 nations**.
- Built a **Flask** backend with **Supabase**, deployed on **Google Cloud**, and developed a command line interface with **Bash**

eBay Electronics Scraper *(Python, BeautifulSoup, Requests, MySQL, Spring Boot, Spring Web)*　　GitHub

- Engineered a web scraper to extract over **30,000 product details** from **900+ eBay pages** across multiple departments and sections using **Python**, **BeautifulSoup**, and **Requests**.
- Devised a data storage system using **MySQL**, significantly enhancing data accessibility and enabling comprehensive data analysis.
- Built a **Spring Boot** backend with **23 API functions** for efficient data retrieval and manipulation.

LEADERSHIP & VOLUNTEERING

- Vice President - Trinity College Computer Science Club　　　　　　　　　　　Sep 2023 – Present
- Residential Advisor - Trinity College　　　　　　　　　　　　　　　　　　Sep 2023 – Present
- International Student Mentor - Trinity College　　　　　　　　　　　　　　Sep 2023 – Present

AWARDS & HONORS

- Next Genius Full-Tuition Scholar at Trinity College: Awarded for academic excellence, covering full tuition fees.　Sep 2022
- Thomas Holland Scholar at Trinity College: Awarded for achieving the 2nd highest GPA in the academic year.　Sep 2023
- Dean's Scholar at Trinity College: Recognized for being among the top 25 performers in the academic year.　Mar 2024
- Phi Gamma Alpha - Mathematics Excellence Award: Honored for being among the top performers in Mathematics.　May 2024