Ayan Deka

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Education

- **University of Illinois at Urbana - Champaign** — Champaign, Illinois
  Bachelor of Science - Computer Engineering, GPA: 3.72 — *May 2024*

  Courses: *Discrete Structures, Data Structures, Probability With Engineering Applications, Algorithms Models of Computation, Computer Systems Engineering, Databases,*

Skills Summary

- **Languages**: Java, Kotlin, C++, Python, JavaScript, SQL, HTML, C, C#, Assembly
- **Frameworks**: Django, NodeJS, Bootstrap, Dagger 2
- **Tools**: Docker, GIT, Charles Proxy, Jira, MySQL, Flipper
- **IDE's**: Android Studio, VSCode, Pycharm, Intellij, TextPad

Experience

- **Tinder** — Remote
  Software Engineer Intern (Android) — *May 2022 - August 2022*
  - **Development**: Utilized MVVM architecture, Kotlin's coroutine flows, and Dagger 2 to fully develop the infrastructure, backend API calls, and User Interface towards an "Online Now" label that positively resulted in a 3% increase in user matches
  - **Development**: Performed various updates towards the feature and infrastructure development of Tinder's Android code base, as well as collaborated with other engineers on implementing the full lifecycle product of "Quick Access Preferences", leading to a 5% increase in user updates
  - **Contribution**: Enhanced understanding of codebases by classifying and debugging various bugs it possessed, expanding knowledge of API requests through monitoring them in a Dev environment, and writing test cases for the various modules within it using frameworks such as Mockito
- **Promoting Undergraduate Research for Engineering UIUC** — Remote
  Researcher — *January 2021 - May 2021*
  - **Mentored By Texas Instruments**: Selected from a pool of over 200 competitive applicants to participate in a semester-long project influenced by Texas Instruments.
  - **Built TI-RSLK**: Dove in the application of robotics in industries by working with a team to build a fully analog robotic car, the TI-RSLK
  - **Incorporation**: Incorporated our own design to the robot and designed it so that it can respond to sound, light, and various other aspects using their respective sensors.

Projects

- **Algorithm Trading Project**: Applied my interest in this field by studying the different components of algorithmic trading such as different analysis strategies (MACD, APO, EMA, and so on), various different trading signals with machine learning, human intuition and so on, risk management systems, and backtesters. Built and visualized these components to overall create an algorithmic trading system that includes a Liquidity Provider, Order Book, a Double Moving Average Trading Strategy, Order Manager, Market Simulator, as well as the different pathways associated with each aspect in the system and an event based backtester using Python and its various libraries. Tech: Python, VSCode, Matplotlib, twisted.internet, Pandas datareader, and sklearn.
- **Flight Paths Project**: Collaborated with 3 other students to create a flight paths project developed in C++. Took an input of OpenFlight data revolving around airports, constructed the data points as a graph, ran BFS and Dijikstra's to find the shortest path, and Krushkal's MST algorithm to find the minimum cost of linking all airports. Tech: C++, VSCode
- **Ecommerce Website**: Built a website that mimics an ecommerce setting from scratch that allows users to purchase to add items of their liking to a cart and purchase them. Tech: HTML, JavaScript, Node.js, EJS, CSS, Stripe API
- **NFL WIKI APP**: Constructed an Android NFL Wiki app, where users would be able to search teams and player's statistics (which is stored in a local database which came from an API). They could also set their preferences so that the app would revolve around their favorite team and player. Tech: Java, Android Studio, FireDB, Google Authentication API, SportsDataIO API
- **Personal Website**: Applied my learning of web development by creating a personal website showcasing my projects, experiences, and skills using Bootstrap 4. Tech: JavaScript, JQuery, HTML, CSS, Phaser.js, Bootstrap 4, AWS, EC2, and Route 53 to deploy the website
- **Financial Modeling**: Delved deeper in the vastness of Python by applying many of its libraries into the world of Quantitative Finance. Computed and modeled financial aspects related to portfolio allocation with linear systems, nonlinear volatility modeling, valuation of options, short rate models, analysis of time series data, as well as utilizing machine and deep learning for prediction models. Tech: Python, Tensorflow, Keras, SciPy, sklearn, statsmodel, Quandl API

Honors and Awards

- Dean's List (Top 20% of Students In the College Of Engineering) - Spring 2021 and Fall 2021
- Award for Best Strategic Game at High School 24 Hour Hackathon - Spring 2018
- High Honor Roll in High School: September 2016 - June 2020