YI-CHAO DAI *2023 TAPIA & GHC On-site Attendee*

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MSCS @ NEU & MEng @ UCB; SWE Intern @ S.E.; Engineer Intern @Meituan & Tencent

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Education

- **Northeastern University** — **Oakland, CA**
  M.S. in Computer Science, GPA 4.0/4.0 — *Sep 2023 – May 2025 (Expected)*
  Courses: Object-Oriented Design, Full-Stack Development, Software Security, Compiler, Operation System, Backend Architect
- **University of California AT Berkeley** — **Berkeley, CA**
  *Master of Analytics, IEOR, **CS** Track; GPA: 3.77 / 4.0* — *Jun 2022 – May 2023*
  Courses: Algorithm, Data Structures, Structure & Interprets of Computer Programs, Software Engineering, iOS Development
- **Kean University** — **Union, NJ**
  Bachelor of Science in Finance, Minors in Mathematics and Economics; GPA: 3.91 — *Sep 2018 – May 2022*
  Courses: Calculus, Discrete Math, Information System, Database, Data Mining, Big Data Computing, Optimization

Skills

- **Programming Languages**: Python, Java, JavaScript, Swift, Kotlin, SQL, C, C++, R, MATLAB, HTML, CSS, Ruby, PHP, AMPL
- **Frameworks and Libraries**: Flask, Django, React.js, Vue, Spring Boot, SwiftUI, PyTorch, YRAN, Spark, MongoDB, Hadoop, Axios
- **Tools and Platforms**: Xcode, Docker, Postman, Bootstrap, Maven, Git, AWS, Vim, JUnit, JShell, Node.js, Markdown, Element-UI

Experience

- **Sports Excitement** — **San Francisco, CA**
  Software Engineer Intern - Full Stack, Developed on back-end architecture, fastened searching algorithm — *Mar 2023 -*
  - **Web Application**: Built an web service to improve discovery and analyst efficiency via fast searching for college athletes
  - **Optimization**: Resulted in 30% improvement in athletes' discovery efficiency, saving 3,000+ person-hours a month at a low cost.
  - **Models**: Utilized serverless AWS infrastructure to support a highly scalable, cost-efficient, fault-tolerant, and secure architecture
- **Meituan** — **Beijing, China**
  Data Analyst Intern, Developed mini-application and KanBan system to improve analysis efficiency — *Jun 2021 - Nov 2021*
  - **Optimization**: Remodeled and optimized Hive SQL **E.T.L** process in **Hadoop**, increasing **downstream efficiency** by **12.1%.**
  - **Framework**: Tuned **Spark Context** for large-scale data processing by **broadcast** variables, reducing the queue traffic by **17%**
  - **Models**: Deployed statistical and analytical models using **Flask** platform, improved team's decision process. Exploited **Shiny App, HTML, CSS** to design an interactive **web tool** on Geo-Spatial data, potentially activating user participation by **50.5%**.
- **Tencent** — **Shenzhen, China**
  Data Engineer Intern, Focused on Data infrastructure and deployed Machine Learning Models on Platform — *Feb 2021 - Jun 2021*
  - **Engine**: Collaborated in China's leading Tech (Baidu, Tiktok etc.) to build engine capable of storing and analyzing job-text data.
  - **Data**: Utilized **MongoDB, Spark, SQL** to store and distribute over **200,000+** job description and built data back-end **API**.
  - **Models**: Launched several **SVM** class classification models on **Flask Web Service**, Optimizing the model's macro-F1 by **16.7%.**

Projects

- **InvestoPal: A Real-time Financial Analysis iOS App** — **Berkeley, CA**
  Full Stack Developer, Developed on back-end architecture, fastened trading algorithm — *Feb 2023 - Jun 2023*
  - **Function**: Collaborated in a team to design an FinTech iOS app using **Figma and Swift**, integrated algorithmic trading and analysis of stock within one app, enabling the functions of stock investment, digital wallet, performance analysis, and auto-strategy.
  - **Database**: Built **API** to access real-time stock data and stored in **MongoDB**, reducing the processing latency and traffic by 25%.
  - **Education**: Promoted a range of learning resources and tools to 100+ users to enhance their financial and investment skills.
- **RookieDB: Designing an Efficient Database** — **Berkeley, CA**
  Course project of CS186: Database System, Developed on back-end architecture, fastened searching algorithm — *Dec 2022 - May 2023*
  - **Function**: Developed a database with B+ Trees Indices, efficient join algorithms, and SQL query optimization.
  - **Co-currency**: Build multi granularity locking to allow concurrent execution of transactions database recovery.
  - **Test**: Constructed in Java with JUnit testing to check for Data Race situation, achieved up to **90%** code coverage.
- **Gitlet: Mini Version Control System** — **Berkeley, CA**
  Course project of CS61B: Data Structure, Developed on back-end architecture, fastened searching algorithm — *Jun 2022 - Jul 2022*
  - **Function**: Designed a Git-like **version-control system in Java**, including key functionalities such as *init, commit, remove, log, checkout, branch, merge, and reset.* Used TreeMap as main data structure instead of LinkedList to reduce code base size by **50%**.
  - **Persistence**: Persisted data using **Serialization and Hashing**, reducing data retrieval run-time by **10%**, increasing loading data.
  - **Test**: Designed **JUnit tests and end-to-end testing flow** for code base, achieving test coverage of **85+%.**
- **Management System: A System with Front-End and Back-End Separation** — **Union, NJ**
  Team Leader, Developed on back-end architecture, fastened searching algorithm — *Apr 2022 - May 2022*
  - **Function**: Deployed **Springboot, Mybatis, MySQL server, and Vue** to generate a management system with functionalities of *insertion, deletion, modification, and query.* Used **Axios** as main functions to transfer data.Used **Postman API** as Test platform
  - **Back-End**: Developed Back-End platform by **Java Maven** to create **Controller and Mapper** for the basics functionalities.
  - **Front-End**: Designed **5+** Front-End pages by integrated **Element-UI and Bootstrap** platform.

Publication

[1] **Dai, Y**., Chen, R., et al. *The Relationship Between Twitter Sentiment and Stock Performance: A Decision Tree Structure.* Proceeding of the **56**th **Hawaii International Conference on System Sciences** *(Top 2).* 978-0-9981331-6-4