Dayue Bai

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EDUCATION

University of California, Irvine   **Irvine, CA**
B.S. Computer Science   *Sep. 2016 - Dec. 2019*
- GPA: 3.963   Major GPA: 3.976
- Honors: ICS Honors Program, Deans Honor List (8 quarters)

EXPERIENCE

UC Irvine, Department of Computer Science   **Irvine, CA**
Undergraduate Researcher (*Advisor: Chen Li*)   *July 2018 - Present*
- Implemented an **Elasticsesarch adapter** that translates queries and connects Cloudberry, an open-source middleware system, to Elasticsearch (Scala, Play Framework).
- Designed an ingestion pipeline that leverages multithreading to clean and load data into Elasticsearch efficiently (tested on 1.5 billion tweets).
- Deployed Cloudberry and Elasticsearch on a cluster (5 nodes) which boosts keywords search query speed by 40%.
- Evaluated open-source databases and BI services, including Apache Druid, Greenplum, Neo4j, and Amazon QuickSight.

UC Irvine, Department of Computer Science   **Irvine, CA**
Undergraduate Grader   *Jan. 2019 - June 2019*
- Cooperated with instructors to design API documentation of a **full-stack web development project** and wrote test cases.
- Answered questions on Piazza, implemented sample projects, and graded over 200 students' demos and quizzes.

UC Irvine, ICS Student Affairs Office   **Irvine, CA**
Peer Academic Advisor   *Apr. 2018 - June 2019*
- Counseled undergraduate students in major selection, class scheduling, and resource referrals.

PROJECTS

PSearch   *https://directory.uci.edu*
- Redesigned, prototyped, and rolled out an entirely **new UCI campus directory** from scratch as the most active developer in the team (Node.js, Express, Elasticsearch).
- Implemented features such as search-as-you-type, fuzzy search, configurable ranking function, and nickname support.
- Serving 40,000+ UCI students, faculty, and staff for daily directory search since Sep. 2019.

MovieBuy   *https://youtu.be/L4k_4BL5JhU*
- Developed a **full-stack** web app for selling movies that supports features including reCAPTCHA, sign in, autocomplete, full-text search, shopping cart, and checkout (Java servlet, MySQL, Apache Tomcat, AWS, Bootstrap).
- Designed a complementary Android app to support the service on mobile App by leveraging RESTful API.
- Deployed the web app to the cluster on cloud using **AWS** and **GCP**.
- Scaled the web app using a load balancer and connection pooling which decreases end-user latency by 15%.

Real-world Network Model Testing   *github.com/dayuebai/Graph-Algorithms*
- Involved testing various graph algorithms experimentally to determine properties of models of real-world networks.
- Tested Clustering-coefficient, diameter, degree distribution algorithms on graphs generated by the Erdos-Renyi model and Barabasi-Albert model, performed regression analysis on test results, and drafted a testing report.

SKILLS

- Proficient: Elasticsearch, MySQL, Java, JavaScript, Python, C++, C, Linux, Git, Bash
- Experienced: AWS, GCP, Scala, React Native, React, Node.js, Express, RESTful API, HTML, CSS
- Others: TCP/IP, AJAX, Android development, MongoDB, Neo4j, JUnit, Apache JMeter, Firebase

ACTIVITIES

Lab Tutor   *Apr. 2017 – June 2018*
- Assisted over 100 students in labs in debugging coding assignments (C++, Python) and referred online tutorials.