

Dayue Bai

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in dayue-bai

EDUCATION

University of California, Irvine (UCI)

B.S. Computer Science

Irvine, CA

Sep. 2016 - Dec. 2019

- GPA: 3.963 Major GPA: 3.976
- Honors: ICS Honors Program, Deans Honor List (8 quarters)

EXPERIENCE

UCI, Department of Computer Science

Undergraduate Researcher (Advisor: [Chen Li](#))

Irvine, CA

July 2018 - Present

- Implemented an **Elasticsearch 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 35%.
- Evaluated open-source databases and BI services, including Apache Druid, Greenplum, Neo4j, and Amazon QuickSight.

UCI, Department of Computer Science

Undergraduate Grader

Irvine, CA

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.

UCI, ICS Student Affairs Office

Peer Academic Advisor

Irvine, CA

Apr. 2018 - June 2019

- Counseled undergraduate students in major selection, class scheduling, and resource referrals.

PROJECTS

PSearch

<https://directory.uci.edu>

- Redesigned, prototyped, and launched an entirely new **UCI Campus Directory** from scratch (Node.js, Express, EJS, Elasticsearch).
- Implemented features, including configurable ranking algorithm, search-as-you-type, fuzzy search, and nickname match.
- Serving 40,000+ UCI students, faculty, and staff for daily directory search since Sep. 2019.

MovieBuy

<https://youtu.be/L4k4BL5JhU>

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

ACTIVITIES

Lab Tutor

Apr. 2017 - June 2018

- Helped over 100 students in labs debug coding assignments (C++, Python) and referred students to useful tutorials.