Boyu CHEN

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EDUCATION

University of California, San Diego   **San Diego, CA, U.S.**
M.Sc in Electrical and Computer Engineering   *Sep. 2021 - Mar. 2023*

Zhejiang University   **Hangzhou, Zhejiang, China**
B.Eng in Electrical Engineering   *Sep. 2016 - Jun. 2020*

PROFESSIONAL EXPERIENCE

iFLYTEK Co., Ltd.   **Hangzhou, China**
Software & Machine Learning Intern, Consumer Business Group   *Jul. 2020 - Dec. 2020*

- Developed interface of auto text composition in natural language semantics via **python-flask**
- Applied semantic analysis using **Logistic Regression** to network state recognition(90% accuracy)
- Calculated similarity matrix of text, achieved text abstraction using **TextRank**(graphic structured)

Selected Projects

Full-stack Web Development   *Jul. 2022 - Aug. 2022*

- Developed frontend with **Bootstrap**, built **RESTful API** with **Express** framework and **MongoDB**
- Provided account creation and password reset API with **Passport.js** and **Nodemailer.js**
- Designed user data saving module, utilized Google Maps API to provide location feature

HIV-TRACE Graph Representation in C++   *May 2022*

- Read in HIV viral sequences from .csv files, modeled it abstractly as an undirected graph
- Given two nodes, applied **Dijkstra's Algorithm** to find the shortest path and connecting threshold

SurfStore Cloud Storage Service based on Dropbox   *Mar. 2022*

- Deployed data block and metadata file(map) interfaces for server and **gRPC** client when dialing
- Downloaded to client if the cloud had changes, updated server file if it's modified/created locally
- Handled conflicts following "**whoever syncs first wins**", deleted files if marked with "tombstone"

Best City to Live in Based upon Preference   *Mar. 2022*

- Normalized scores of each column, depicted the heatmap for correlation coefficients via **seaborn**
- Performed K-means clustering, divided traits to 4 groups each based on correlation and subjectivity
- Assigned weights for groups, calculated scores and visualized the best cities on map by **folium**

TritonHTTP(HTTP/1.1) Network Protocol Implementation in Golang   *Jan. 2022 - Feb. 2022*

- Formalized and validated requests, read files and wrote response with **bufio**
- Built **TCP** connection, processed pipelined requests, closed when required using the **net** package
- Handled requests, generated statuscode and response headers, achieved reliable data transmission

Background Separation with EM Algorithm   *Nov. 2021 - Dec. 2021*

- Under each class, computed posterior probability of each point with weight given estimated params
- Derived params by solving maximum likelihood for each mix-model from different initialization
- Using models derived from **EM**, seperated backgrounds under mix-model Bayesian Decision Rule

Cleaning Robot Based on Automatic Control   *Mar. 2018 - May 2019*

- Developed a cleaning car model with MCU programming on Arduino board in **C++**
- Generated **PWM** waves to regulate motor speed, invoked ultrasonic sensor unit for guiding

SKILLS

- **Programming Language:** Golang, Java, C/C++, Python, HTML/CSS, JavaScript, SQL, Matlab
- **Framework Toolkit:** Docker, Bootstrap, Spring Boot, React, Vue, Node.js, Git, Ajax, Flask, Express, SQL, RESTful, socket, MongoDB