Boyu CHEN

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Actively seeking winter co-op opportunities and full-time positions for new grads

Education

University of California, San Diego — San Diego, CA, U.S.
M.Sc in Electrical and Computer Engineering — *Sept. 2021 - Mar. 2023*
- Selected Courses: Data Structure, Distributed Systems, Computer Architecture, Computer Vision

Zhejiang University — Hangzhou, Zhejiang, China
B.Eng in Electrical Engineering — *Sept. 2016 - June 2020*
- Honors & Awards: Honorary Title of Excellent Graduation Project (2020), Inventronics College-set Scholarship (2019), Excellent Social Work Scholarship (Twice, 2017 2019), Outstanding Student Leader Awards (2017), etc.

Skills

Programming Languages: C/C++(proficient), Java, Python, Golang, HTML/CSS, JavaScript, SQL, Matlab
Framework & Tools: Docker, Bootstrap, Spring Boot, React, Vue, Node.js, Git, Ajax, Flask, Express, RESTful, socket, MongoDB, Django, MySQL

Experience

iFLYTEK Co., Ltd. — Hangzhou, Zhejiang, China
Software & Machine Learning Intern, iFLYBUDS Consumer Business Group — *July 2020 - Dec. 2020*
- Collected **100k+** individual words from voice conversion engine and performed data cleaning; reorganized them into complete sentences according to natural language semantics; deployed the project via **python-flask**
- Analyzed conversation contents; built **logistic regression** model to identify unstable network(**90% accuracy**)
- Implemented **TextRank** algorithm to the meeting recording text by calculating cosine similarity; extract top 2 sentences as text summary, improving the efficiency of noting and reading meeting minutes by 50%

Purdue University — West Lafayette, IN, U.S.
Research Assistant, Advisor: Meng Cui — *July 2019 - Sept. 2019*
- **Deep Fog Imaging:** Built a spatiotemporally-gated detection system to filter out deep fog(scattering background and shot noise); yielded high resolution and contrast image in Matlab; published the results on ***Optics Express***
- **Real-time Image Stabilization:** Generated triangle signals in vertical directions to control laser scanning speed; collected time-series data gravity core as feedback for real-time image motion tracking and correction(200Hz)

Selected Projects

Front-end Interactive Web Development — *July 2022 - Aug. 2022*
- Deployed a dining review webpage with **Bootstrap**, used **Express** and **MongoDB** for realizing **RESTful API**
- Developed sign-in API including account system and password creation with Passport.js and Node.js
- Invoked Google Maps API to provide location guiding; implemented user data saving module

Human Pose Estimation for Squat Counting in Python — *May 2022 - June 2022*
- Built human body model via **BlazePose**, extracted 33 key points to represent body skeleton and depict body pose
- Calculated distance between selected pose joints, applied **k-NN** to generate classifier for "up" and "down" position
- Visualized sigmoid curves and counters for squat detection on video streams; supporting fitness app development

HIV-TRACE Graph Representation in C++ — *Apr. 2022 - May 2022*
- Pre-processed **100,000** pieces of HIV sequence data via ifstream, modeled it abstractly as undirected graph
- Implemented **Dijkstra's Algorithm** to find the shortest path and connected threshold given two patients
- Yielded transmission clusters to better understand HIV transmission and inform prevention efforts.

SurfStore Cloud Storage Service based on Dropbox — *Mar. 2022 - Apr. 2022*
- Initiated interfaces for file saving and indexing in server and **gRPC** clients, allowing multiple **concurrency**
- Synchronized files of newer versions from cloud to local client; updated new/modified local files to the server
- Handled sync conflicts following "whoever syncs first wins"; deleted files marked with "tombstone"(0 hash value)

TritonHTTP(HTTP/1.1) Network Protocol Implementation in Golang — *Jan. 2022 - Feb. 2022*
- Built **peer-to-peer** connection; formalized & validated http requests; acquired files and wrote responses in **bufio**
- Enabled end-to-end data transmission via **TCP**; processed **pipelined** requests; closed connection when required
- Validated good/bad http requests; generated statuscode and response headers accordingly; sent requested contents