Zhaojie Hu

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Education

University of Central Florida — Orlando, FL, U.S
Ph.D. student in Computer Science, Specializing in Security and Privacy — *Aug. 2023 – current*
- GPA: 3.83/4.0

The University Of Manchester — Manchester, UK
M.Sc. in Advanced Computer Science — *Sept. 2019 - Sept. 2020*
- GPA: 3.87/4.0 (Distinction)

South China Agricultural University — Guangzhou, China
B.Eng in Software Engineering — *Sept. 2015 – Jun. 2019*
- GPA: 83/100

Work Experience

ByteDance — Shanghai, China
iOS Software Engineer · Douyin Relation and Privacy Team — *Dec. 2020 - Present*
- **Local User Center:** Designed and developed the local database manager. Utilized the push-pull model to update user data timely when TikTok app launched or received keep-alive connection notification from the server; Improved the user experience and reduced computational cost by reading data from the up-to-date database. Supported flexible access to the Local User Center and table building.
- **Shake Shake:** Implemented new and unique offline social features; Allowed nearby users to build relationships and play games with each other by shaking TikTok. Used the TabList framework (developed by TikTok) to refactor the container and support flexible configuration. Improved the performance of this module.
- **Friend Recommendation:** Developed features to present recommendation cards that display profiles of potential friends and acquaintances through interacting with the recommendation system. Dispatched videos uploaded by potential friends and acquaintances. Improved the user interaction experience in these scenarios by optimizing code and UI. Converged the general and basic logic to the SDK, improving extensibility and reducing code complexity.
- **Efficiency Robot:** Conducted automated tasks on NodeJs and the light service platform, such as Meeting Reminder, Workflow Confirmation Reminder and Calibration, and Spare Conference Room Search. Helped more than 15 business teams access these functions; Improved the accuracy of project management statistics.
- **Privacy and Security:** Identified and fixed possible privacy and security risks in Tiktok; Improved users' experience with enhanced privacy and security. Applied security SDK to reduce risks at the code level. Significantly reduced online user feedback on privacy issues.
- **Relationship Establishment:** Designed features to help users make friends and guided them to interact and communicate with each other on TikTok videos. Enhanced the core indicators, such as Daily Active Users (DAU).
- **Duoshan:** Redeveloped Duoshan (app with core social features) on the codebase of TikTok; Rewrote the user homepage (profile) module applying a framework developed by TikTok; Improved the flexibility and efficiency of the user homepage module. Successfully improved user activation and retention of Duoshan.

ByteDance — Shanghai, China
iOS Software Engineer Intern · Douyin Social Team — *Jul. 2020 - Nov. 2020*
- **Friend Feed Tab:** Developed the independent module in TikTok for displaying friends' videos and making friend recommendations. Decoupled complex code to improve maintainability and quality.
- **Enjoy Together:** Developed the feature that enables inviting friends to watch TikTok together. Developed and optimized the invitation panel. Designed a solution to synchronous video streaming using Information Channel.

Macriocode Co., Ltd. — Shengzhen, China
Data Mining Engineer Intern — *Jul. 2018 - Oct. 2018*
- **Lethal Factors Analysis of Bicycle Accidents in North Carolina:** Compared the performance of GBDT, SVM and ANN; Employed GBDT for modeling; optimized the model; Got the importance of the factors and analyzed the main lethal factors. Utilized ArcGIS and plotted dangerous areas on the map according to the model; Put forward some critical proposals.

Publication

[Euro S&P 2024] Seeing is Not Always Believing: An Empirical Analysis of Fake Evidence Generators

Zhaojie Hu, Jingzhou Ye (co-first author), Yifan Zhang, Xueqiang Wang

[USENIX Security 2024] Navigating the Privacy Compliance Maze: Understanding Risks with Privacy-Configurable Mobile SDKs

Yifan Zhang, Zhaojie Hu (co-first author), Xueqiang Wang, Yuhui Hong, Yuhong Nan, XiaoFeng Wang, Jiatao Cheng, Luyi Xing

Projects

Blood Glucose Forecasting And Accurate Food Intake Detection

Master Project *Apr. 2020 - Aug. 2020*

- Applied LSTM to forecast blood glucose development and detect food intake.
- Built three types of Long Short-Term Memory (LSTM) models for glucose value forecasting.
- Developed LR, SVM and GBDT models; Compared these models for food intake detection, which took maximum, minimum, average glucose, etc., in a one-hour period as the features.
- Built the optimal GBDT model for food intake detection with 0.976 AUC.

Warning Model of Wildfire Scale

Undergraduate Project *Oct. 2018 - Apr. 2019*

- Employed ArcGIS to calculate the geological data of California; Utilized Python and ArcGIS to process data.
- Compared the performance of RF, XGBoost, GBDT, LR and SVM. Employed the best classifier (XGBoost) for modeling, optimized the model, and validated the performance.
- Got the critical factors and analyzed the main factors that may worsen wildfires.
- Made the wildfire scale prediction application based on the model.