## Yifeng He


CONTACT INFORMATION

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EDUCATION

**University of California, Davis**, Davis, California, USA 08/2019 – present

- **Anticipated degree:** B.S. in Computer Science & Applied Mathematics
- **GPA:** 3.887

RESEARCH

**Computer Security Lab at UC Davis** 10/2022 - present

- Work with one PhD student members on the frontend of language embedding
- Find the error message in compilation and analyze the error reasons
- Modify the data set in POJ-104 by writing a data preprocessor to
- Find suitable Input-Output (IO) pairs to represent the function of compilable programs
- Vectorized the IO pairs to embedding vector for model training
- Train BERT model on IO pairs and then use trained BERT for clustering

**Path Academics** 02/2022 - 07/2022

- Conducted research on neural network and its application in AI under the supervision of Prof. Pavlos Protopapas from Harvard
- Attended workshops on gradient descent algorithm, neural network optimizers, regularization of neural network, and other related concepts and architecture
- Analyzed and compared models of deep learning algorithms application,
- Made automatic differentiation to activation function using backpropagation, visualized receptive fields through max-pooling
- Composed independently the research paper for the IEEE international conference

INTERNSHIP

**ByteDance** 04/2021 – 08/2021

*Software Engineering Intern*, Income Platform Team

- Used microservice tech to connect parts of the author income settlement bushiness
- Transformed author-relation data architecture design from relational database (SQL) to graph database (Gremlin) to allow better efficiency for the business model
- Refactored the income calculation control process with visitor design pattern using Python 3

**Xigua Video** 05/2021 – 06/2021

*Software Engineering Intern*, Author Experience Team

- Created a data cleaner script with ORM to maintain the size and readability of online data settlement table
- Created the offline flow of Medium Video Encouragement Project for weekly data calculation
- Built the interface for frontend of web and mobile app to display the data visualization

PROJECTS

**CourseReco** 06/2022 – 09/2022

- Designed the overall system architecture
- Led the programming for API server and recommender engine
- Negotiated with the third-party provider, SchedGo, for data service
- Provided technical leadership to teammates

**Music Genre Classifier** 05/2022 – 06/2022

- Processed music samples into spectrogram by Short-time Fourier transform
- Designed the appropriate model (CNN) to classify spectrograms into category
- Analyzed the resulting model and test outputs with saliency maps

**ImageOrientation** 03/2022 - 04/2022

- Pre-processed image data by rotating them with random generated angles, and assigned these angles as label
- Designed the appropriate CNN for regression task, tested and improved the model
- Applied Hyper-parameter tuning based on train, validation, and tested results

**Dcash-server** 05/2021 - 07/2021

- Created a multi-threaded API server using C++ to allow users to create accounts to make deposit and transfer
- Used MySQL to store and maintain user data
- Made API calls to the Stripe API server to handle credit card information

**Genshine Impact Gacha Analyzer** 08/2021 - 09/2021

- Designed fetching process of gacha data from MiHoYo and categorized the process
- Stored data into local database automatically, wrote into excel for data analysis by option
- Generated text or graph visualization report from data analyze results

ACTIVITIES

**HackerHub Club**, UC Davis 07/2020 - present
*Co-founder, President, Technical Officer*

- Design and maintain a course recommendation system, CourseReco, for UC Davis students
- Organize and lead the Code Jam Competition on data visualization, AI, augmented reality and virtual reality, and machine learning
- Coach in introductory programming workshops, including Assembly, functional programming, recommender system, generative adversarial network, etc.

HONORS AND AWARDS

**Dean's Honor List**, Fall 2019, Spring 2020, Spring 2021, Spring 2022

PUBLICATIONS

**He, Yifeng**, *Big Data and Deep Learning Techniques Applied in Intelligent Recommender Systems*, ICCASIT 2022.