

Tzu-Hsuan Lin

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EDUCATION

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| University of Southern California, Viterbi School of Engineering Master of Science in Computer Science | Los Angeles, CA May 2023 (Expected) |
| National Central University Bachelor of Science in Computer Science and Information Engineering, GPA: 3.95/4.0 Honors <ul style="list-style-type: none">11th place (out of 94 groups), National Intelligent Innovation and Creation Contest, Ministry of Education, Taiwan4th place (out of 51 groups), Competition of Special Project, Department of CSIE, NCU, Taiwan Relevant Coursework: Natural Language Processing, Internet of Things, Computer Vision, Pattern Recognition | Taoyuan, Taiwan Jan. 2021 |

INTERNSHIP EXPERIENCE

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| Associate Back-End Engineer, Research and Development NextDrive Company <ul style="list-style-type: none">Worked with four colleagues on designing and testing APIs for IoT products in TypeScript, PostgreSQL, and MySQLDeployed back-end system of an IoT operating webpage to AWSCompleted three projects in groups, self-studied Jira and Docker, ensured APIs fit product features, reviewed codes, and improved performance | July 2020-Dec. 2020 Taipei, Taiwan |
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ACADEMIC PROJECTS

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| Hierarchical Discourse-level Structure for Fake News Detection <ul style="list-style-type: none">Implemented Bidirectional LSTM with Multi-Head Attention and TransformerAchieved an accuracy rate of 80% for fake news detection | Dec. 2020-Jan. 2021 |
| Fruit & Vegetable Pricing App <ul style="list-style-type: none">Led a team of four to classify fruit and vegetable using CNN MobileNet and scrape market prices with web crawlerReceived 11th place in Taiwan's national contest | June-Oct. 2020 |
| Web-based Time Series Anomaly Detection <ul style="list-style-type: none">Implemented an anomaly detection method using Variational Autoencoder in PythonDeveloped a user-friendly web page that allowed people without a background in machine learning to apply anomaly detection to any datasetCustomized training parameters for users, such as activation functions, optimizers, and epochsReceived 4th place in a schoolwide contest at NCU | Feb.-May 2020 |
| Smart Chair Sensor <ul style="list-style-type: none">Built a real-time system with four parts, including pressure sensor and Bluetooth sensor, Firebase, machine learning model, and webpageAnalyzed average waiting time for vacancies with LSTM model | Oct.-Dec. 2019 |

RESEARCH EXPERIENCE

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| Advanced Computing and Networking Lab National Central University <ul style="list-style-type: none">Worked with a group of three on designing web-based machine learning modeling construction assistantImplemented four applications of Autoencoder, including dimensionality reduction, image denoising (DAE), feature extraction, and anomaly detection (VAE) | Aug. 2019-Jan. 2021 Taoyuan, Taiwan |
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PUBLICATION

Lin, Tzu-Hsuan, and Jehn-Ruey Jiang. "Anomaly Detection with Autoencoder and Random Forest." *2020 International Computer Symposium (ICS)*. IEEE, 2020.

SKILLS

- Programming Languages: C++, Python, MATLAB, Java, Assembly Language
- Frameworks & Libraries: TensorFlow, Pandas, OpenCV, PyTorch, scikit-learn
- Languages: Mandarin (Native), Spanish (Beginner)