Lu Liang

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EDUCATION

University of Wisconsin - La Crosse, USA Sep 2019 - May 2021

Master of Software Engineering

GPA: 3.56/4.0

Core Courses: Fundamentals of Info Security (A), Computer Network (A), Software Engineering Principles (AB), Mobile Application Development (A)

Advisor: Prof. Lei Wang

South-Central Minzu University, Wuhan, China Sep 2016 - Jun 2019

Bachelor of Engineering in Software Engineering

GPA: 4.04/5.0 (90.42/100)

Core Courses: Foundation of Computer Science (95), Data Structure (97), Algorithm Design and Analysis (91), Foundation of Software Engineering (95), Computer Networks and Internet Technologies (93)

PAPERS

Houlin Chen, **Lu Liang** and Lei Wang. **Improving Indoor Tracking Accuracy through Sensor Fusion: A Low-Cost, Neural Network-Assisted Visual System for Real-time Position Estimation.** Future Technologies Conference (FTC) in the series "Lecture Notes in Networks and Systems" 2023. (Under review for Scopus, DBLP, INSPEC, etc.)

- Abstract: A low-cost, GPS-independent model of a neural network-assisted visual tracking system is proposed. In the test phase, the proposed system obtained a tracking accuracy of 0.5 m without any help from expensive depth cameras or 3D LIDAR.

Lu Liang. **Indoor Localization and Tracking Based on Neural Network**. Postgraduate Dissertation, 2021.

- Abstract: This manuscript describes a neural network-based indoor localization and tracking method. Through testing and experimental results, the proposed system significantly improves the accuracy, anti-interference ability, and real-time performance of indoor tracking systems.

Lu Liang. **Face Detection based on Skin Color Model and Face Geometric Features**. Undergraduate Dissertation, 2019.

- Abstract: In this thesis, the algorithm based on the elliptical skin color model and the face geometric feature detection in YCbCr color space is used for face detection. The experimental results and data illustrated in this paper show that the algorithm used in this paper has a low miss detection rate and can achieve more accurate face detection.

PROJECTS

Webex App Nov 2021 - Present

Java Developer

- Develop and maintain Calendar service, contributing to the enhancement of the core functionalities of the service and gaining hands-on experience in Java backend development.
- Conduct research and implement optimizations in database queries, resulting in a notable 30% reduction in API response time, thereby improving application performance.
- Collaborate closely with Quality Assurance engineers, actively identifying and resolving bugs, which significantly decreased the number of critical issues by 40%, ensuring a stable and reliable software product.
- Actively participate in team meetings and brainstorming sessions, leveraging problem-solving skills to offer creative solutions for addressing complex technical challenges.
- Assist in the documentation of software design, testing procedures, and user guides, which played a crucial role in knowledge transfer within the team and ensuring maintainable software.

Vision Indoor Localization and Tracking based on Neural Network Aug 2020 - May 2021

Algorithm and Android Developer

- Developed and implemented a vision-based indoor localization and tracking system using a neural network for detecting markers and calculating mobile device coordinates in a 3D environment.
- Designed and constructed the experimental environment, trained the neural network, and integrated visual localization, sensor localization, and neural network techniques for accurate indoor tracking.
- The system achieved indoor device localization and tracking with an impressive error margin of fewer than 0.5 meters.
- These findings were documented in a research paper presented at Future Technologies Conference 2023 and Midwest Instruction and Computing Symposium 2023.

Face Detection System based on Skin Color Model Dec 2018 - Mar 2019

Algorithm Developer

Algorithm Developer

- Conducted algorithm development work using Matlab for processing experimental data and creating a prototype face detection system based on the skin color model.
- Combined the elliptical skin color model and face geometry features detection method, achieving a remarkable detection accuracy of over 90% after thorough experimentation.
- The thesis based on this project was recognized as the best bachelor thesis at the university.

WORK EXPERIENCE

Cisco Systems, Inc. Nov 2021 - Present

Software Engineer Hangzhou, Zhejiang, China

- Responsible for designing and implementing the core functionality for the Webex App Calendar Service as a Java developer.

HONORS & AWARDS

First Prize in Joint Defense of Thesis, Hubei Province Computer Professional Talent Training Cooperation Alliance	2019
Best Bachelor's Thesis Award, South-Central Minzu University	2019
Second Prize Scholarship for Academic Excellence, South-Central Minzu University	2018
First Prize Scholarship for Academic Excellence, South-Central Minzu University	2017

KNOWLEDGE SKILLS

Language: Chinese(native) and English (fluent with an IELTS score of 6.5)

Programming Languages: Java, Python, MATLAB

Tools: Git, Kafka, Docker, Redis, LaTex

Frameworks: Spring, OpenCV, PyTorch, TensorFlow/Keras

Databases: Mysql, Cassandra