更改日志

20250219

1. Refactor Layout

20250123

1. 添加personal website，remove youtube

20250107

1. 修改姓名字号from 20
2. 添加location
3. Polish by GPT with the prompt: First, imagine you are a staff-level software enginner in computer vision and robotics and the hiring manager. Polish this for an entry-level to be professional and concise on resume. Then, bold the highlight word that you feel the most awesome, highlights should not be too much

20250104

1. 修改经历时间，删除月份
2. Skillset moves to the bottom and make it white
3. Remove 每个experience下的单独行skills

|  |  |  |
| --- | --- | --- |
| **EDUCATION** |  | |
| **University of California, Berkeley, GPA - 3.85/4**  *M.ENG., Electrical Engineering and Computer Sciences in Robotics.* | | 2024-2025  *Berkeley, CA* |
| Coursework - 3D Computer Vision, Deep Learning for Computer Vision, Introduction of Robotics, Data Science, Agentic LLMs  Capstone Project - Optimization of Modularized Robot Design in Complex Scenes. Advisor: Prof. Masayoshi Tomizuka, Dr. Wei Zhan | | |
| **Shanghai University, Rank - Top 1, GPA - 92.59/100** | | 2020-2024 |
| *B.ENG., Computer Science.* | | *Shanghai, China* |
| **WORK EXPERIENCE** |  | |
| **Momenta** |Software Engineer Intern | Jan 2024 - Jul 2024 | |
| * Delivered the first version of an **autopilot reversing** feature for **GM Cadillac LYRIQ** in parking lots, covering the **full** **product** **lifecycle** * Developed a **stuck-state** detection **benchmark** stack for reversing maneuver, integrating classification and precision-recall analysis * **Evaluated 800+** real parking test cases in 30+ garages over 4 months, enhancing collision-free reversing performance by 3% * Optimized threshold-based stuck-state detection by integrating **SVM**, refining borderline cases and reducing **false positives** by 15% * Slashed **workload** for 4 product managers across 4 vehicle projects from **120min/day to 10 min/day** by automating data processing and report generation for 36,000+/day simulation test records evaluation, streamlining success rate analysis | | |
| **DJI RoboMaster** | **[Git repo](https://github.com/SRM-Vision/SRM-Vision-2022)** | **[Video](https://www.youtube.com/watch?v=4uyBBJRXUTg)** | | |
| *Team Lead* | 2022-2024 | |
| * Led a 40-student team to deliver **8** fully functional **robots** **from scratch**, winning the **3rd place** in RoboMaster 2023 * Gained **US$20,000** in sponsorship by improving shooting, motion control, and detection through **7000+ test iterations** | | |
| *Co-Head of Robot Computer Vision* | | 2020-2022 |
| * Developed an adaptive **vision pipeline** for **real-time** auto aiming, integrating camera calibration, image preprocessing, YOLOv7 detection, object tracking, and fire control, earning **promotion** for code contributions and troubleshooting * Boosted detection accuracy by 25%, upgrading from pure OpenCV detection to an OpenCV + **YOLOv7** hybrid system * Initiated a **non-linear least squares** based tracking algorithm for planar rotating object in **parametric sinusoidal speed**, integrating pitch-yaw angle computation based on geometry for precise targeting, outperforming **90%** competitors in hit rate * Refactored the system from **Python to C++** with 5 peers, achieving **60 fps** on NVIDIA Jetson Xavier NX and **80 fps** on NVIDIA AGX | | |
| **FIRST Tech Challenge** | **[Team Documentary](https://www.youtube.com/watch?v=ZKn0rDUpNfY) |** Team Lead | 2017-2020 | |
| * Bent the performance of a 15-member team, leading to **2 FIRST World Championships admissions**(top 2 % out of 7500 teams globally), **1 Inspire Award**(1st out of 40 teams), and **3 Connect Awards**(top 8% out of 60 teams) * Developed an autonomous system using multiple sensors and **OpenCV**/**TensorFlow SDK**, achieving 95%+ detection accuracy and securing the highest Regional score with rule-based human driver imitating strategies | | |
| **RESEARCH - National Natural Science Foundation of China** | | |
| **Visual Explainer For Deep Learning Image Classification (No.61936001)** | **[Git repo](https://github.com/LIYunzhe1408/Visual-Explainer-For-Deep-Learning-Image-Classification)** | **[Video](https://www.youtube.com/watch?si=gGqRFG9EwhzPH2b1&v=HcAEPgrM9zM&feature=youtu.be)** | 2023-2024 | |
| * Designed a 2-stage **image segmentation** pipeline and an **AutoEncoder** with tree constraints, using Shapley Values to extract and rank concepts by importance, boosting explanation consistency score by 35% on 1000+ images from 20 **ImageNet** classes * Developed a **Django backend APIs** for page navigation, handling **GET** and **POST** requests, and efficient data retrieval * Built a **Vue.js** **frontend** with user authentication, image segmentation, and contribution heatmap visualization | | |
| **Mining Property Relations of NASICON Solid Electrolyte (No.52073169)** | 2021-2022 | |
| * Developed a **BERT-based** pipeline to extract 106,896 entities and 260,475 entity-relation triples from 1,808 research papers, storing results in Neo4j and MySQL for knowledge discovery * Optimized the NER model by labeling 7,000+ high-quality sentences, improving precision by 5%, recall by 3%, and F1-score by 4% | | |
| **Selected Projects** |  | |
| **3D Vision and IMU-aided TurtleBot Recovery** | **[Website](https://sites.google.com/berkeley.edu/scoutrescue/introduction)** | ROS2, OpenCV, Feature-matching, 3D transformation, RealSense   * Developed a ROS2-based pipeline to correct positional drift, integrating IMU data, RealSense D435i images, and feature-matching * Engineered an image-based transformation module, computing relative pose difference based on depth feature correspondences | | |
| **MealMate: From Cravings to Carts** | **[Git repo](https://github.com/LIYunzhe1408/MealMate)** | **[Video](https://youtu.be/bAT-jZhDtCw?si=HPL83vIrPcu6HJY9)** | LLM, Flask, React.js, Python, HTML&CSS | | |
| * Designed an LLM-powered assistant to generate tailored shopping lists using user preferences and real-time inventory * Benchmarked GPT-4o-mini against GPT-4 and GPT-3.5-turbo for LLM agent performance, demonstrating 20% higher recipe match precision and 40% suggestion accuracy, and 42% faster processing time * Built a showcase using React.js for the frontend and Flask for the backend with effective prompts and transaction logic | | |
| **Skills** |  | |

* Programming Languages and Tools - Python, C++, Javascript, SQL, ROS2, Git, Linux, PyTorch, Numpy, Pandas, OpenCV, AutoGen, AWS
* Software & ML Development - Vue.js, React.js, Flask, Django, Object Detection, Image Segmentation, 3D Reconstruction, MySQL, Neo4j
* Robot and Embedded Systems - Sawyer Arm, Omnidirectional chassis, Robot with gimbal, Camera Calibration, NVIDIA Jetson Xavier NX