LIBIN JOSEPH

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EDUCATION

University of Southern California   Los Angeles, CA
Master of Science in Computer Science, Intelligent Robotics **(GPA: 3.88)**   **12/22**
Relevant Coursework: Foundations of AI, Analysis of Algorithms, Machine Learning, Advanced Computer Vision,
Robotics, Computational Human-Robot Interaction

Kyungpook National University   Daegu, South Korea
Bachelor of Engineering in Computer Science and Engineering **(GPA: 3.6)**   **7/20**
Relevant Coursework: Data Mining, Pattern Recognition, Software Engineering, Intelligent Systems, Mechatronics

SKILLS

- **Languages** - Python, C/C++, Java
- **Web Tech** - HTML/CSS, JavaScript, ReactJS
- **ML/AI** - Pytorch, OpenCV, MLAgents
- **General**- Quality Work, Team Player, Creative, Leadership

- **Database** - SQL, Firebase
- **Software** – MSOffice, Unity3D, Prezi, Figma, Adobe CC (Ae, Pr, Ps, Lr, Ai), Cinema 4D
- **Hardware** – Arduino, Raspberry Pi, ROS

RESEARCH EXPERIENCE

Graduate Student Researcher - Dynamic Robotics and Control Laboratory, USC, Los Angeles, CA   **06/21–10/ 21**
- Research on methods of human to quadruped-robot motion mapping and retargeting from a human pose to quadruped pose.
- Implementing various academic papers related to retargetting and Simulating multiple mapping methods using ANN in Unity

WORK EXPERIENCE

Web Development Intern - gocampus.kr, Seoul, South Korea   **07/20–12/20**
- Devised and Deployed Manager Page to help managers or system admins to run recommendation engine.
- Maintained company's website by debugging and adding features both frontend and backend.
- Connected gocampus' recommender system via REST API to analyze user resumes and output a pdf containing user recommendation report.
- Suggested and took initiative to improve user experience and interactivity leading to about 30% more users on the platform.

AI Intern - Artificial Brain Lab, KNU, Daegu, South Korea   **07/19–09/19**
- Built an Android App to detect 5 different emotions (Happy, Sad, Hate, Neutral, Anger).
- Improved an Existing sentiment Classifier (Balance Net) from 63% (SOTA) to 64% accuracy and implemented an app based on Flutter and GRPC framework to communicate to a server running NN model to display relevant emoticons.

Data Analyst Intern - Dr. RML Hospital, New Delhi, India   **08 /18-08/18**
- Coordinated with IT dept. and structured hospital database containing about 5GB of patient data with approximately 1000 to 2000 entries coming in daily. Tested different models such as KNN, K-Means, ANN, etc. and compared performance using Keras, numpy, scikitlearn and matplotlib and generated report for certain trends in patient data.

PROJECTS

Pick and Pour Robotic Manipulator (Python, ROS, AIKIDO)   **Fall 2021**
- Collaborated with a team of 4 to program a Kinova gen2 robotic arm to Pick a bottle and pour water onto a cup using RRT with shortcutting.

Checkers Playing AI Agent (Python)   **Spring 2021**
- Implemented an AI agent based on minimax with alpha-beta pruning to play checkers with humans or other machines.

5 Finger Robot Grasp using Reinforcement Learning (Unity3D, MLAgents, Cinema4D, Python)   **Fall 2020**
- A research project to make a robotic hand learn to grasp an object based on Proximal Policy Optimization.

Sketch2AR (Unity3D, Firebase, GoogleARCore, Python, C#, TensorFlow)   **Fall 2019**
- Led a team of 3 to develop an Android App to Detect hand drawn sketches and generate a 3d model in Augmented reality on top of the respective sketch utilizing Google's QuickDraw Dataset.

Follow Bot (Python, Raspberry Pi, ORB-SLAM)   **Fall 2019**
- Led and managed a team of 4 to build a robot agent to follow a user based on a smartphone's IMU.

Graduate Admissions Analysis (TensorFlow, Python)   **Spring 2019**
- Partnered with a team of 5 to analyze factors responsible to secure an admit at a university based on different parameters, utilizing UCLA Grad admissions dataset. Tested 19 different models and reported key findings about the data.

Health-L (Android App) (Java, Firebase, Android)   **Fall 2018**
- Created an android app to help hospitals be more efficient in expediting handling patients, from booking appointments to getting medicines and treatment done without needing a reception at a hospital.

ACTIVITIES

Clubs & Organizations: Member of Google DSC at USC, Member of VEX Robotics Club at USC, Treasurer at 4Corners USC
Social Work: Was a Volunteer Teacher at UPAY NGO, India   **Hobbies:** Filmmaking, Gaming, Networking, Soccer, Robotics