Ivan Jutamulia

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EDUCATION

Massachusetts Institute of Technology — **Cambridge, MA**
B.S. in Computer Science and Engineering, Minor in Statistics and Data Science - Major GPA: 5.0/5.0 — *May 2020*
Masters of Engineering in Computer Science and Artificial Intelligence — *May 2021*

Berkeley High School — **Berkeley, CA**
International Baccalaureate Program - IB Diploma Received - GPA: 4.0/4.0 — *June 2016*

EXPERIENCE

MIT Sports Lab — **Cambridge, MA**
Undergraduate/Graduate Researcher — *September 2019 - Present*
- Developing an evaluation framework for decision making of NBA players with expected possession value (EPV) metric
- Utilized deep learning approaches to build accurate pass difficulty and shot difficulty models (0.89 and 0.63 ROC-AUC respectively)
- Built a visualization tool to analyze the evolution of EPV values for offensive players throughout a possession
- Collaborated with San Antonio Spurs and Google Cloud to integrate as a coaching and analytical tool

Vim — **San Francisco, CA**
Software Engineering Intern — *January 2020*
- Improved healthcare EHR systems to cut referral workflow costs by integrating high-value recommendations for provider referrals
- Developed browser extraction tools using optical character recognition and DOM-scraping techniques to pull EHR information
- Built an embedded Chrome extension that integrates high-value recommendations with the EHR referral workflow

Second Spectrum Inc. — **Los Angeles, CA**
Machine Learning Intern — *June 2019 - August 2019*
- Launched a tracking data and semantics delivery system for the English Premier League with the AI soccer semantics team
- Developed a logistic regression model for bisecting passes with over 90% f1 score and integrated into existing system
- Implemented training and evaluation infrastructure with Pachyderm to speed up model development process by a factor of 20
  - Leveraged Pachyderm infrastructure to improve the expected goals model ROC-AUC score to 0.86
- Designed and implemented a clustering-based system to identify player archetypes and style of play on a per-game basis

MIT Computer Science and Artificial Intelligence Laboratory — **Cambridge, MA**
Undergraduate Researcher — *May 2018 - August 2018*
- Developed a complete task and motion planning system for a real-world robot to achieve long-horizon tasks
- Integrated a computer vision system that could robustly detect objects and their poses with occlusions up to 50%
- Enabled research on machine learning and planning in uncertain domains with small real-world datasets

PROJECTS

Personal Website — *June 2020*
- Website developed from scratch using ReactJS to display as a personal portfolio online

COVID-19 Sentiment Analysis on Twitter — *March 2020 - May 2020*
- Trained NLP binary classification models in Python to detect whether coronavirus related tweets are serious or not
- Leveraged models to uncover trends between seriousness and factors such as time and location of tweet

Uber and Lyft Pricing — *October 2019 - December 2019*
- Analyzed statistical relationships between prices of Uber and Lyft rides and factors such as weather, location, and time of day
- Utilized network analysis, hypothesis testing, time series analysis, and regression to uncover relationships

LEADERSHIP & ACTIVITIES

MIT Sports Summit 2021 (Virtual)
Co-Lead — *November 2020 - February 2021*
- Led the planning of MIT Sports Lab's flagship conference interfacing leaders in academia and sports industry with the MIT community
- Managed and coordinated a team of 25 people and 12 sub-teams to successfully restructure the event virtually on Zoom / Gather.town
- Spearheaded outreach and communication with leaders of renowned athletic teams, organizations, and corporations around the world

Competitive Soccer
MIT Assistant Coach, MIT Varsity Captain, High School Varsity Captain, Club Captain — *August 2002 - Present*

MIT Phi Sigma Kappa Fraternity
Chapter Secretary, Philanthropy Chair, IT Chair — *September 2016 - May 2020*

SKILLS

- **Programming Languages:** Python (proficient), Java, SQL, HTML, CSS, JavaScript
- **Technical Tools and Frameworks:** Numpy, Pandas, Scikit-Learn, Tensorflow, Keras, PyTorch, AWS, GCP, Docker, ReactJS, ExpressJS, VueJS, MySQL, PostgreSQL, Pachyderm, Apache Beam/Dataflow
- **Languages:** English and Mandarin (fluent)