RIA DOSHI
riadoshi@gmail.com | Monta Vista High School

Robotics Learning Papers Platform

The Robotics Learning Papers Platform is a multi-campus initiative sponsored by Facebook, University of Washington, Stanford University and University of Slovenia. The goal of the project is to create a digital archive of the best research papers in AI and Robotics. The Robotics and AI research universe is complex and vast. Without a unified digital index of papers, researchers track the papers manually in local spreadsheets and documents making sharing, collaboration and real-time updates nearly impossible. Our aim was to digitally transform this collaborative aspect of research experience in the field of AI and Robotics via a digital platform.

Working under the guidance of Professor Jeannette Bohg. I used a document database (MongoDB) to serve as a digital backend repository for all the research papers. Having a document database meant we could have a persistent storage in the cloud not unlike Apple iCloud. For the initial launch, we assembled and curated a unique dataset from over 200+ professors and AI researchers.

One important requirement was to enable users to tag and sort the papers. To achieve this, each paper is parsed for keywords using natural language processing algorithms. This also enabled users to search using keywords (such as ‘policy gradient’ or ‘neural network’). The platform leverages a ranking algorithm for search results which was made purposely arbitrary to ensure unbiased order of papers across researchers. New papers can be submitted online via an administrative interface. This entire application tier was coded in PHP, JQuery and HTML/CSS.

The next goal was to make the platform accessible across all common social media platforms used by researchers. Using 3rd party APIs, the platform was integrated with LinkedIn, Twitter and Facebook so that researchers can "share/like/tweet" the papers or the site to their community using the social media platform of their choice. Since the site has gone live, it has been used by 15,000+ people in over 50+ countries.