AVIK JAIN

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I am a student developer with experience using algorithms in educational, competitive, and practical environments. I am particularly interested in machine learning and graph algorithms and their real-world applications. I am currently a Platinum division competitor in the USA Computing Olympiad.

Skills

PROGRAMMING LANGUAGES

Java
Python
HTML/CSS
JavaScript
Node.js
MATLAB

MATH CONTEST SCORES

AMC 10: 120
AMC 12: 115.5
AIME: 7

Education

Monta Vista High School

I am a senior at Monta Vista High School (GPA: 4.0 UW). I'm concurrently enrolled at De Anza College where I take advanced math courses. Coursework includes AP Computer Science, AP Physics C, Multivariable Calculus, Linear Algebra, Differential Equations.

Experience

Hunch.AI — San Mateo, CA
Machine Learning Intern — June 2017 to August 2017

Extended face detection and classification models to video data, using temporal information to improve classification accuracy. Tested and compared machine learning models, focusing on theoretical justification for results. Implemented multithreaded pipeline to index and search celebrity video database for clips with actors/actresses.

MV WebDev Club — Monta Vista High School
Vice President of Technology — August 2015 to Present

Created new member portal with Node.js, and created curriculum for and taught full-stack web development and Android development.

IncubateX Global Hackathon
Director of Technology — June 2016 to January 2017

Led team developing customizable website template used by hackathons for promotion by over 10 events. Led mobile app development and wrote Android app and web server which allows event organizers to deliver location-based push notifications and updates to hackathon participants.

MathAndCoding — Bay Area
Director of App Dev. Workshops, Program Leader — January 2016 to Present

Led workshops teaching introductory problem solving and programming with Java and Python to hundreds of students. Created curriculum for introductory programming with Android AppInventor, resulting in more engaging workshops with higher retention. Received Gold Presidential Service Award.

Projects

SnapStitch — July 2017 to Present

Machine learning based video compilation/summarization tool. It takes several input video clips (e.g. raw vacation footage), extracts important visual concepts, and stitches together the most relevant clips for each concept, to create a concise summary with unique clips and no redundancy. I collaborated on designing and implementing the core algorithm, which uses pretrained image embeddings, clustering algorithms, and nearest neighbor similarity metrics.

MV JSA Member Portal — July 2016 to Present

A member portal and moderated blogging platform for Monta Vista Junior State of America, which allows members to track activities and submit richly-formatted blog posts to officers for review and publication. Built with Node.js and MongoDB.

fbash — April 2016 to June 2016

A command-line tool which allows developers to access their command-line remotely through Facebook Messenger and provides additional utilities for collaboration and development. Installed over 4,000 times through NPM.

SwiftAssist — February 2016

A cross-platform application which leverages crowd-sourcing for rapid emergency response. I built the Android and Pebble applications.

Flappy Nerd — July 2015

A Flappy Bird-based game which takes advantage of its addictive nature to assist the user in studying effectively using data queried from Quizlet. I programmed the game physics and graphics. Built with Quizlet API and Java.

Awards

SM Hacks · First Place — January 2017

CU Hacks · Second Place — July 2015

USA Computing Olympiad · Platinum Division — December 2016

California DECA · Second Place — February 2015