Krishna Pakalapati

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EDUCATION

University of California, Riverside, Riverside, CA
Bachelor of Science, Computer Science, Expected 2019 GPA: 3.23

PROJECTS

Tile Puzzle Solver: Wrote a C++ program that allows the user to create a valid 8-tile puzzle. The program will then allow the user to select one of the path-finding algorithms out of Uniform Cost Search, A* Search with the Misplaced Tile Heuristic, or A* Search with the Manhattan Distance Heuristic. The path-finding algorithm will then return an optimal solution to the 8-tile puzzle.

Feature Selector with Custom Heuristic: Wrote a C++ program that, given a data set with multiple classes, finds the set of class features that most accurately identifies data points to their respective classes. A custom heuristic I call *Pessimistic Backwards Elimination* speeds up feature selection drastically by implementing Backwards Elimination but giving up after the global maximum in accuracy is detected for each feature set.

Hashed Password Cracker: Wrote a Python program that cracks passwords hashed in md5 with salt. It uses the python multiprocessing library to implement the producer-consumer pattern in order to quickly generate and hash random passwords and then compare them with the hashed target password.

iLonely: A social media website that allows user to find and make friends with other users based on their age and proximity preferences. Users are provided with secure login, a customizable profile page, messaging, a post feed, and the ability to connect to their Instagram account and transfer pictures. The Django Python web framework was used to create the website while MySQL was used to create and maintain the database.

Mini-Java Compiler (in progress): Writing a compiler for the object oriented programming language Mini-Java, which is a subset of Java. Program type checking and translation from Mini-Java to the intermediate Vapor language has been completed. Translation from Vapor to an even lower level intermediate language VaporM is currently in progress, and translation from VaporM to MIPS assembly language is planned for the future. The Mini-Java compiler is written in Java.

R-shell: A shell program written in C++ that is a subset of the Unix Bash. R shell allows for basic commands to be used in conjunction with logical operators and precedence indicated by parentheses. The program produces and parses a syntax tree and then uses fork( ) and execvp( ) to execute the given commands.

COMPUTER SKILLS

Languages: C, C++, Java, Python, Swift, Bash, SQL, LaTeX.
Web Development: HTML, CSS, JavaScript, Django
Applications: Vi/Vim, Visual Studio, Git, VMWare, VirtualBox, MySQL, IDA Pro.
Operating Systems: Unix, Linux, Mac OSX, Windows.

AWARDS

Chancellor's Scholarship University of California, Riverside
Outstanding Delegate Model United Nations, Security Council
Dean's Honor List University of California, Riverside

INTERESTS

Data Mining, Deep Learning, Path-finding Algorithms, Mobile App development, Web App development.