Adeel Ahmad

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adl1995.github.io

EDUCATION

Bachelor of Computer Science August 2014 - Present
National University of Computer and Emerging Sciences, Islamabad

WORK EXPERIENCE

Software Developer Intern May 2017 - August 2017
Google Summer of Code 2017 with Open Astronomy

- Designed and developed a Python package for Hierarchical Progressive Surveys
- Extended a low and high level API for exploring and creating WCS / HEALPix images
- Implemented simple and precise drawing algorithm using projective transformation and nearest-neighbor interpolation techniques
- Composed API and user-level documentation using Sphinx
- Reported system state to the user using progress bar and CPU-and-memory consumption statistics

Full-Stack Web Developer January 2017 - April 2017
Upwork

- Developed large-scale PHP Laravel software systems
- Designed numerous databases using entity-relationship diagrams
- Created front-end interfaces using Vue.js
- Implemented AJAX calls using jQuery and designed an API to query data
- Hosted applications on the cloud using Amazon Web Services and Google Cloud

Data Scraper, Web Developer June 2016 - December 2016
Fiverr

- Wrote automated scripts for scraping data from websites
- Integrated Selenium with PhantomJS web-driver for headless browser automation
- Used Beautiful Soup and regular expressions for parsing scraped data and performed data analysis using Pandas
- Fixed bugs and diagnosed web hosting issues

PROJECTS

Reconstruct3D September 2017 - Present

- Implemented the structure from motion pipeline using monocular images
- Applied RANSAC on SIFT keypoint matches for removing outlier points
- Visualized the result by providing a point cloud representation for the input scene

GeoLib March 2018

- Implemented various algorithms for computing distance between two points on the Earth's surface
- Used C++ template specialization to allow users define their custom data types
- Set up Doxygen for source code documentation and benchmarked the implementation against Boost Geometry algorithms

Python astronomy package for HiPS May 2017 - August 2017

- Developed a Python package for viewing astronomical figures
- Wrote parameterized test cases and used Travis CI for contiguous integration
- Applied asynchronous programming techniques for fetching tile data

MCQ Exam Checker December 2016

- Applied Gaussian blur to remove noise from the input image before applying Canny edge detection
- Performed template matching using Generalised Hough transform to find the encircled MCQ's
- Used 2D cross-correlation for character identification inside the identified MCQ option

TECHNICAL SKILLS

Programming Languages: Python, C++, PHP, JavaScript, Assembly, Bash, LaTeX
Web Frameworks / Databases: Laravel, Django, MySQL, SQLite, Apache, Nginx
Machine Learning: TensorFlow, Keras, OpenCV, NumPy, Pandas
Cloud Technologies: Amazon Web Services, Google Compute Engine, Travis CI
Front-End Web Development: Vue.js, jQuery, Moment.js, Bootstrap, Gulp, Bower

EXTRA-CURRICULAR ACTIVITIES

DICE-IET, *Participant*, COMSATS Lahore — December 2017 - December 2017
FAST IEEE Week, *Head Web & IT* — November 2016 - January 2017
NaSCon '16, *Vice Head Web & IT* — February 2016 - April 2016
FAST Computing Society, *Joint Secretary* — February 2015 - December 2015

INTERESTS

Running, Cycling, Reading, Movies, Cooking