

RIAZ MUNSHI

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CAREER OBJECTIVE

I am a Jack-Of-All-Trades hacker, from assembly to python, from web development to machine learning, I love them all. My prime areas of interests are Systems, Computer Vision, Machine Learning and Augmented Reality.

EDUCATION

Master of Science, Computer Science and Information Systems Expected Dec '16
University at Buffalo, The State University of New York

Bachelor of Technology, Computer Science and Engineering Sept '08 - Apr '12
Jawaharlal Nehru Technological University, AP, India

EXPERIENCE

Research Assistant at UB Drones Lab, SUNY, Buffalo Aug '16 – current

Drone Perception/Navigation SDK (C#, ROS, Unity, UWP, Hololens)

- Developing an open-sourced library for ROS to interface with Hololens using Ros-bridge and control some of the robots present in ROS, eg: Turtle_Sim using gaze, gesture and voice commands via holographic apps.
- Make Robots to follow holograms and respond to physics based on scene perception capability of hololens.

Software Engineer Intern, Multi-modal Interfaces Logitech, Newark, CA May '16 – Aug '16

Multi-Modality in AR (C#, Unity, UWP, Microsoft Hololens)

- Exploring new possibilities of App development using Head-Mounted Displays using Hololens.
- Re-created the Pokemon Gym Battle and Harry Potter Final Fight Scene using Hololens.

Touchless Media Player (C#, .NET, WPF, Intel Real Sense F200)

- Designed a Multimedia Player that takes user gesture and voice command in coherence to provide intuitive control over how we control media players.
- Increase/Decrease Volume based on saying "Volume", followed by hand gesture to specify intensity.

Shared Mouse Addon: Eye Tracking (C++, C#, Intel Real Sense F200, WPF, Win32)

- Prototyped a model to facilitate intuitive transfer of control of a shared mice based on eye gaze.
- Written a middle-ware manager that would poll on a constraint, and perform maneuver to get back to the screen where you are presently looking and vice-versa, using a depth camera.

Graduate Researcher at UB Drones Lab, SUNY, Buffalo Sep '15 – Dec '15

Multi-Camera Object Detection and Tracking using Depth-Cameras

Tools: OpenCV, Matlab, Python, Microsoft Kinect, Scikit-learn

- Research on developing a multi-camera based object tracking system to track UAVs in the sky and obtain the relative 6-degree orientation of the object including (X,Y,Z, yaw, pitch, roll) with accuracy.

Software Developer, Vistex Inc, Enterprise Software, Hyderabad, India Aug '12 – July '15

ViViD – Vistex Visual Designer (ExtJS, NodeJS, Bootstrap, Perl, Web Services, JQuery, SAP)

- Developed a WYSIWYG MVC App Builder Platform similar to Android Studio for building Business Apps.
- Designed and Developed various Object Models, Layout Schemes, Widgets and developed a multi-page application build-framework to build application for target systems.

Integrated Planning for Business Intelligence (ExtJS, NodeJS, Bootstrap, Perl, Web Services, SAP)

- Developed a tool to give unprecedented insights into trade promotions, claim and incentives.
- Developed an efficient algorithm and a data-structure for Multilayer N-dimensional data by deriving hierarchical data from large datasets and applying heuristics for predicting sales.

PROJECTS

OS161 Kernel Development (ops-class.org) Spring 2016

(C, ASM, GDB, MIPS)

- Implementing crucial modules of an operating system kernel.
- Implemented synchronization primitives, file and process sys calls including fork, execv, exit, waitpid, open, close, dup2, write. Implemented a complete VM system including support for coremap, paging, swapping using a software-based TLB.

Peer-to-Peer Distributed File System Spring 2016

(Android, ADB, Java, P2P, Sockets)

- Implemented DHT using the chord implementation as per the paper by David Karger (MIT) et al.
- Implemented ID space partitioning/re-partitioning, Ring-based routing, and Node joins.

IoT compliant Post-Quantum Safe Algorithms Spring 2016

(C, Java, Python, Crypto, Raspberry Pi)

- Implementing lattice based post-quantum safe algorithms for constrained devices.
- Modifying BLISS, and worked on optimizing NTT algorithm for working on raspberry pi in real-time.

WebVision (self-project)

(Javascript, V8 Engine, RGB Camera)

- An experimental project to write several parts of OpenCV framework to work on modern web browsers.
- Implement Image Processing modules and implement algorithms from latest research papers.

Untitled - Multi-Lingual Twitter Search Engine

(Solr, TwitterAPI, HighCharts, Python)

- Developed a multi-lingual twitter search engine with real-time analytics on search results.
- Have indexed 0.1 millions topics on trending twitter topics over 2 weeks, in 5 different languages including English, Russian, French, Arabic and German.
- Implemented Custom Tokenizer's and Intelligent ranking systems for query system.
- Cross-Doc analytics, Web Analytics based on search results, OAuth and many other features.

Coldwave OS (self-project)

(C, C++, Asm, GRUB, Bochs)

- Developed an x86 targeted OS from scratch including a bootloader, minimal C library with a user shell.
- Implemented vital Modern Operating System Modules, following a micro-kernel architecture.

Eugene Online Judge (self-project)

(PHP, Perl, JS, Shell, Docker)

- Developed an experimental coding engine judge like SPOJ, to judge programming problems.
- Implemented a LXC based sandbox environment to work with concurrent automated submissions.

Autonomous Vehicle Navigation Simulation (self-project)

(Web, MapAPI, Firebase, NodeJS)

- Developed a platform to simulate autonomous cars navigating the road without collision.
- Simulated Adaptive Local Planning of objects via trajectory correction methods and geometry.

Recee (self-project)

(OpenCV, Python, BlueMix, NodeJS, Sockets, Firebase)

- Recee is a civic watch dog, which runs on a drone, to track vehicles, traffic violations, wanted etc.
- Developed a Remote Web Interface to Recee, where it interprets the scenes using IBM Watson API.

SKILLS

Languages : C, C++, Java, Python, C#, Perl, Octave, Assembly, Pascal, R, Hack.

Tools & Libraries : OpenCV, TensorFlow, NLTK, Android, AWS, Hadoop, Git, Solr, ROS.

Databases : MySQL, SQLite, MongoDB, Firebase, Redis.

Web : Php, JavaScript, AngularJS, Django, Node JS, Flask.

IDEs : Eclipse, Visual Studio, NetBeans, MATLAB, WebStorm, PyCharm.

HONORS AND AWARDS

Finalist at the Global Koding.com Hackathon, which involved 20,000+ participants worldwide.

Received Full Scholarship for CCNA Course, NIIT through a nation-wide technical test in India.

MISCELLANEOUS

Taken a 18 hours PMP Course in the winter break and have done case-study on a software project as per the PMP Guidelines.

Interested in Competitive programming and regular at participating in various contests at HackerRank, Spoj, CodeForces, TopCoder.