

Archit Khullar

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EDUCATION

University of North Carolina at Charlotte

Charlotte, NC

Master of Science in Computer Science (GPA 3.6/4.0)

Aug 2017 to Dec 2018

Coursework: Parallel & Distributed Computing, Intro. to Natural Language Processing, Algorithms & Data Structures, Robot Motion planning, Machine Learning, Advanced Mobile Application Development (Android), Computer Vision

Amrita Vishwa Vidyapeetham University

Coimbatore, India

Bachelor of Technology in Computer Science and Engineering

Aug 2011 to May 2015

TECHNICAL SKILLS

Languages/Technologies: C, C++, C#, JAVA, Python, JavaScript, JQuery, Shell Scripting, REST APIs, HTML 5, CSS 3, SASS, JSON, XML, Bootstrap | **Database:** Oracle, MySQL, SQLite, Firebase Realtime Database, MongoDB | **Framework:** .NET, NodeJS, AngularJS, Android, J2EE | **Cloud/Server:** AWS {EC2, S3, Lambda}, Firebase, Tomcat, WildFly | **Libraries:** Python – OpenCV, NLTK, NumPy, SciPy, Matplotlib, Pandas, Seaborn, TensorFlow, Keras | C++ - OpenMP, Open MPI, CUDA, Pthreads | **ROS** meta OS, MATLAB
Tools: NetBeans, IntelliJ, Eclipse, MySQL workbench, MongoDB Compass, Android Studio, Postman, JIRA, Webstorm, Atom

INDUSTRIAL PROJECTS

LAUNCH LKN (Lake Norman) Autonomous Boat

Charlotte, NC

Vision system for the Autonomous boat – Python, TensorFlow

Sept 2018 - Present

- First module: Detecting a human being waving at the boat, with hands or holding a signal to get attention of the boat.

Skookum

Charlotte, NC

Skookum Dayshift – HTML, SASS, JavaScript, NodeJS, AWS Lambda SES, ParcelJS

Aug 2018

- Worked as a full stack developer to create web application for users Dayshift registration. Followed Google Design Sprint and Skookum's own Agile sprint.

WORK EXPERIENCE

University of North Carolina at Charlotte

Charlotte, NC

Graduate Research Assistant - JAVA, Spring MVC, MySQL, JUNIT, WildFly, Elastic Search, LogStash

Jan 2018 – Jul 2018

- Worked as full stack developer of a web application used by the research community in the Biotechnology domain to search for similar spectrum sample from the Mass Spectrometer.
- Features like search, upload, compare for samples with different permission levels were developed & deployed

TATA Consultancy Services Limited

Bengaluru, India

Assistant Systems Engineer - .NET, SharePoint 2013, MS Office 365, Client/Server Side Object Model

Dec 2015 – Jul 2017

- Developed out of the box SharePoint applications using C# with .NET framework and (CSOM/SSOM)
- Migrated/Modified SharePoint data and applications from previous SharePoint versions to SharePoint 2013

Chargebee Technologies Private Limited

Chennai, India

Product Engineer QA - JAVA (J2EE), MySQL, JSP, JSON, jQuery, Tomcat

Jun 2015 – Dec 2015

- Worked as Full stack JAVA developer with a product based, Business to Business, billing subscription solution startup
- Worked on dev and production servers for EU tax calculation for customers with business originating to/from Europe
- Responsible for third-party B2B application integration like *Twilio*, *MailChimp*, *Shopify*, *SquareSpace* with the product

ACADEMIC PROJECTS – Github: <https://github.com/architkhullar>

- **Application Development – Android SDK, JAVA, SQLite, Firebase, NodeJS, Express, Mongoose**
 - Chat application for a medical diagnosis on Twilio's programmable messaging service using REST API on NodeJS.
 - Social networking mobile app with chat, news feed, mail box, location sharing using Gson, OkHttp, Android SDK, Firebase
 - An IOT app using Bluetooth Beacon's to automatically present the discounts available for a certain category if the user is in the proximity of that shelf in a grocery store.
- **Robot Motion Planning:** Implemented **Rapidly – exploring random trees (RRT)** a **Probabilistic Roadmap methodology** for path finding in a parking space scenario for a rectangular car like robot (DOF: $R2 * S1$) and its implementation with turtle bot using ROS
- **Parallel Computing: (C++, Pthreads, OpenMP, MPI)** Parallel Implementations of Merge Sort, Map Reduce in Star and Mesh Topology using MPI (Distributed Systems), OpenMP (Shared Memory), CUDA and Pthread libraries (C++)
- **Reinforcement Learning (ML): Deep Q-Learning** on Flappy Bird game to achieve maximum score with minimum learning iterations while incorporating **Experience Replay**. Various Q-learning reward functions were defined and tested
- **Human Computer Interaction (HCI), head wearable device** for visually impaired individuals, which guides them to operate a Coffee maker via audio feedback based on their movements. The system detects and identifies various objects in the vicinity, the hand movements of the user and instructs the user accordingly. Used **Python** with **OpenCV** library running on **Raspberry Pi**

PUBLISHED RESEARCH PAPER

Object Recognition by Feature Weighted Matrix – A Novel Approach, Indian Journal of Science and Technology, Vol 8(S7), 278-291, April 15 (<http://www.indjst.org/index.php/indjst/article/view/69996>) ISSN - Print 0974-68486, Online 0974-5645