

# Pankaj Bhambhani

UMass Amherst Master's CS, 3+ years Work Ex. Seeking Full-Time Roles - Machine Learning, Software Development

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## EDUCATION

University of Massachusetts Amherst MS - Computer Science (GPA – 3.95) Expected Graduation – May 2018

Coursework – Machine Learning, Natural Language Processing, Artificial Intelligence, Reinforcement Learning, Systems

Dhirubhai Ambani Institute of Info & Comm Tech. Bachelor of Technology 2009-2013

Coursework: Algorithms, Data Structures, Networks, Databases, Operating Systems, Cryptography, Natural Computing

## SKILLS

Languages - Java Python, Bash, SQL, C++

Frameworks – Spring, Tensorflow, Keras, Docker, AngularJS, Android

Tools – MySQL, AWS, MATLAB, Redis, Hadoop, Git

## PROFESSIONAL EXPERIENCE

Play Games 24x7 Pvt. Ltd. - Software Engineer (Full-Stack) for RummyCircle Jul 2013 - May 2016

- Scaled and optimized distributed in-memory caches using **Ehcache** and **Redis**, also optimized gameplay bot.
- Built RESTful Web Services using **Spring**, Strengthened application security using **Spring-Security**.
- **Technologies** – Java, Spring, Redis, MySQL, Bash, Test-NG

Machine Learning for Data Science (MLDS) Lab – Software Developer for Dark Ecology Project May 2017 - Present

- Scaled the existing learning models to run on large volumes of data, which identify patterns in bird migrations.
- Plans include Analyzing the results and generating plots to better understand bird behavior during migration.
- **Technologies** – MATLAB, AWS S3, AWS Batch, Docker, Python. See [darkecology.cs.umass.edu](https://darkecology.cs.umass.edu)

K-Desktop Environment (KDE) - Software Developer for Choqok Summers 2011, 2012

- Integrated Facebook support for users of KDE's desktop client, Choqok.
- Built a base library which allows users to create, view, like and comment on posts
- **Technologies** – Qt, C++. See [github.com/pankajb64/choqok-facebook](https://github.com/pankajb64/choqok-facebook)

## RESEARCH EXPERIENCE

Detecting Swallow Roosts using Deep Learning – Masters Project with MLDS Lab Sep 2017 - Present

- Formulating Faster-R-CNN based models to detect and locate swallow roosts in weather image data.
- Plans include Building a benchmark data set, fine-tuning models, and Evaluating for large scale data using AWS.
- **Technologies** – MATLAB, Python, AWS S3. See [darkecology.cs.umass.edu](https://darkecology.cs.umass.edu)

## ACADEMIC PROJECTS

Conservative Garbage Collector (GC) – Systems Course Project March 2017

- Developed a prototype model that tracks the memory allocated and collects unreferenced objects.
- Tested it on real world applications such as Firefox and vim with no crashes or performance degradations.
- **Technologies** – C++.

Memory-based Caching– Systems Course Project April 2017

- Implemented a multithreaded server based on **memcached** protocol to store objects in memory instead of database.
- Tried LRU and randomized eviction policies and tested with object sizes of upto 2 GB with high performance.
- **Technologies** – C++, Python

Pictionary with Jibo - HackUMass 2016 Oct 2016

- Trained Jibo a social robot, to play Pictionary using Tensorflow's Image Recognition models and simple line-drawing images, with over 80% accuracy for common objects such as house, chair, etc.
- **Technologies** – TensorFlow, Jibo SDK, OpenCV, Python. See [github.com/pankajb64/jibo-pictionary](https://github.com/pankajb64/jibo-pictionary)