

KARTHIK NATHAN

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<https://github.com/NathanKarthik1996> **Citizenship: United States**

PROFILE

Highly motivated graduate student at Purdue University seeking full time opportunities. Skilled in Machine Learning, Data mining and DevOPS.

EDUCATION

Master of Science in Computer Science Aug 2018 – May 2020
Purdue University, West Lafayette, United States GPA: 3.46
Bachelor of Engineering in Computer Science and Engineering Aug 2014 – Apr 2018
College of Engineering, Anna University, India GPA: 9.08/10
Coursework: Design and Analysis of Algorithms, Machine Learning, DBMS, Networking, Compilers

EXPERIENCE

Software Engineering Intern, Armored Things, Boston, Massachusetts, USA May 2019- Aug 2019

- Identified the cameras on a Network using **WS-Discovery protocol** and extracted information about each camera using ONVIF and stored in a centralized DB.
- Designed a GUI using flask** that queries images from Microsoft Azure and displays images generated by camera according to an error function.
- Developed the backend support** for the GUI to analyse the images stored in Microsoft Azure and compare the quality of the detections generated using YOLO Algorithm with the proprietary crowd detection algorithm developed by our team.
- Deployed both fronted and backend into production **using Nomad by Hashicorp.**

Graduate Teaching Assistant, CS 348 (Information Systems), Purdue University Jan 2019-Present

- Create and grade homework assignments for students to test their understanding in **RDBMS, SQL, PLSQL, QBE, Datalog and Hive.**
- Conducted labs for students to assist them in their programming assignments.

Research Intern, Indian Institute of Technology-Madras, Chennai, India May 2017 – Jul 2017

- Developed an Android app that conformed to the 3GPP Standards capable of sending 150 characters for 14 Indian Languages.
- Provided the user with the flexibility **to send 2x times more characters than a typical SMS app** and **transliterate** from one language to another.

SKILLS

Programming Languages: Python ,C/C++, Java, Scala, SQL, HTML, CSS, XML, PHP, HCL
Toolkits and Frameworks: Scikit-learn, Flask, Nomad by Hashicorp, Docker,D3, TensorFlow, MongoDB, PostgresDB, ONVIF, Jupyter, IntelliJ, Git, Gitlab CI/CD Numpy, PyTorch, Celery and Pandas
Cloud Platforms: Microsoft Azure, Amazon Web Services
Operating Systems: Linux, Android, Windows
Embedded Platforms: Raspberry Pi, Arduino.

PROJECTS

Data Driven Source Code Summarization, Purdue University Jan 2019 – Apr 2019

- Implemented a Source Code Summarization using **Beam Search Algorithm with Seq2Seq Encoder-Decoder Model.**
- Used k-means clustering to assess the quality of the dataset and used attention visualization to assess the quality of the summarizations.

Video Based Activity Recognition using CNN Apr 2018 – Jul 2018

- Constructed a dataset of 200 videos** that describe various movements- walking towards, handshaking, hugging, punching, walking away, pushing and kicking.
- Utilized the data sets to construct a **CNN (Convolutional Neural Network) and achieved an accuracy of 80.45%.**

PUBLICATIONS

K. S. Nathan, M. Arun, and M. S. Kannan, “**EMOSIC—An emotion based music player for Android,**” in Proc. IEEE Int. Symp. Signal Process. Inf. Technol., Dec. 2017, pp. 371–376.
G Krishna, K.S. Nathan and Y. Kumar, A. Prabhu and A. Kannan and Vineeth V,” **A Generic Multi-modal Dynamic Gesture Recognition System using Machine Learning**”, in FICC 2018.