

EDUCATION

M.S IN COMPUTER SCIENCE

Graduating - May, 2017.
Rochester Institute of Technology
Rochester, NY

B.E IN COMPUTER SCIENCE

Anna University
Chennai, India

PROFILE

Github:// [laksravi](#)
LinkedIn:// [lakshmi-ravi](#)

COURSEWORK

GRADUATE

Big Data
Intelligent Systems
Pattern Recognition
Statistical Theory
Data Mining
Graph databases

Independent Study

Advanced Algorithms
Handwritten Formula Recognition

UNDERGRADUATE

Operating Systems
Object Oriented Design
Compilers
Data structures and Algorithms

SKILLS

★★★★★

• Java • Python • Pattern Recognition
• Machine Learning • AWS-Simple
Work Flow • Likelihood • Neo-4j
• Graph Mining

★★★★★

• C++ • R • JSP • Shell • Neural
Networks • MySQL • Oracle • Spring
• MongoDB




★★★★★

• Android • Distributed Systems
• Hypothesis Testing • Wikitude

EXPERIENCE




AMAZON

SOFTWARE DEVELOPMENT ENGINEER, TEST

-  May 2014 – June 2015  Kindle Devices  Chennai, India
- Designed & developed, tools to calibrate system parameters, fluidity & multi-tasking capabilities of **kindle devices** under dynamic scenarios.
 - Responsibilities : A/B result analysis, Monthly On-call for performance tests.




AMAZON

SOFTWARE DEVELOPMENT ENGINEER INTERN

-  June 2016 – Aug 2016  Fulfillment by Amazon  Seattle, WA
- Designed & developed workflow based service execution(using AWS-SWF).
 - Scaled the system from Single host to **distributed** environment
 - Implemented & deployed failure handler, which reduced failure rate by 60%.




DISCOVER LAB

ANDROID APP DEVELOPER

-  Dec 2015 – May 2016  Roc-Reader  RIT, Rochester, NY
- Application displays digital content for magazine pages in **augmented reality**.




RESEARCH

DOCUMENT & PATTERN RECOGNITION LAB RESEARCH MEMBER

-  Aug 2016 – Present  Machine Learning  RIT, Rochester, NY
- Improved handwritten math symbols recognition in formulas, using contextual information from visual density histograms.
 - Identify the layout structure of expressions by building a graph representation, visual features for layout classification and extracting final tree using Maximum Spanning Tree Algorithm. (**Best Poster award**)

NANO COMPUTING LAB

RESEARCH ASSISTANT

-  Aug 2016 – Present  Neural Networks  RIT, Rochester, NY
- Spatial pooler(SP), an adaptive learning tool, based on brain inspired computing.
 - Formulated & implemented, mathematical approach, to formalize SP.

PROJECTS

PATTERN RECOGNITION - HAND WRITTEN FORMULA

Segmentation - Find potential Symbols candidates

- For K-near strokes, predict chances of forming a potential symbol using geometric features, shape context features & find connected components.

Classification - Label Potential symbols with a class name

- Using visual features and orientation based histograms classify symbols.
- Accuracy symbol labels : 90.8% (**second best rate in class**)

Parsing - Find spatial relations between symbols

- Build expression tree by considering relations with right-most symbol.

GRAPH MINING - PEOPLE TRAVEL PATTERNS

- Identify People's travel pattern in Four-square dataset, using frequent sub-graph mining algorithms.

PUBLICATIONS

- A Maximum Likelihood Approach to Adaptive Learning of the Spatial Pooler, at **International Joint Conference on Neural Networks**, Jan-2017.