

# Madhavan R.P

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## Education

### Iowa State University

PH.D - COMPUTER SCIENCE

GPA 3.81/4.00

Ames, Iowa

July 2020 (expected)

### M.N.M Jain Engineering College

BACHELOR OF ENGINEERING - COMPUTER SCIENCE AND ENGINEERING

Chennai, India

May 2011

## Research Experience

### Iowa State University

GRADUATE ASSISTANT

Ames, Iowa

July. 2017-present

- Researching novel problems on how to maximally spread information on large social networks.
- Created an efficient probabilistic algorithm to spread information to targeted users with adversaries present in the network.
- Created an algorithm that improved the information spread by 12% while running almost 100 times faster than the existing state of the art solution.
- Programmed the algorithms in C++ to achieve high practical performance on graphs with millions of edges.
- Efficiently used data structures to store the graphs allowing for blazing fast implementations of graph traversal algorithms.
- "Influence Maximization in Social Networks With Non-Target Constraints" (IEEE BigData 2018, 3 co-authors)
- Recipient of 2018 Atanasoff Award (1 of 193 graduate students) in recognition of academic and research performance

## Industry Experience

### NP Compete Technologies

TECHNICAL STAFF

Chennai, India

Oct. 2011-Sept. 2014

- Developed an Android SDK that enabled businesses to detect user actions and make dynamic UI changes to their existing mobile applications in real-time.
- Leveraged Aspect Oriented Programming to log user actions, modify UI elements allowing for A/B testing in live mobile applications.
- Designed and implemented a comprehensive testing strategy by writing module-level JUnit tests and defining product-level use case scenarios.
- Defined and created a novel Contact Management application that enabled users to easily access and manage their contacts across various social networks and platforms.
- Implemented a Flask web application to collect user's contact information via OAuth and store it in user's Dropbox.
- Technical lead of a team of 4 programmers, managing product features, software design choices, coding standards and continuous integration.
- Implemented a tool in python that processed and categorized emails using Naive Bayes Classification.
- Initiated a team-wide peer code review practice that contributed to accelerated development.

## Skills

**Languages/Tools** Java, Python, C++, C, Git, Javascript

**IDE** Eclipse, XCode, IntelliJ

## Extracurricular Activity

### Computer Science Graduate Student Organization

SENATOR AND COMMITTEE MEMBER

Ames, Iowa

Aug. 2017 - May 2018

- Organized a Research Networking Event that enabled new graduate students to connect with research groups/labs.
- Represented the Computer Science Department as a senator in the Graduate and Professional Student Senate.