

# REVATHY VENKATARAMANAN

Graduate Research Assistant

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## EDUCATION

### PhD in Computer Science

University of South Carolina

Columbia, SC 29208

**Aug 2019 - Present**

### MS in Computer Science

Wright State University

Dayton, OH, USA

**Aug 2016 - Apr 2019 | GPA 3.6/4.0**

### Bachelors in Computer Science and Engineering

RMD Engineering College (Aff. Anna University),

Chennai, India

**Sep 2012 | CGPA 8.48/10**

## INTERESTS

Nutrition management, Personalized Digital Health, Deep learning, Machine Learning, Image Processing, Internet of Things, Android Programming

## SKILLS

Programming Languages: Python, Java

Machine and Deep Learning: Tensorflow, NumPy, Scikit learn, Matlab, Keras

Tools and Technologies: Android Programming, Material Design, Semantic UI

Database: MySQL, ElasticSearch

Operating Systems: Windows, Linux, Android, MacOS

Version Control Systems: GitHub

## RESEARCH PROJECTS

### Nutrition Management Information System | Jan 2018 - Present

*A multi modal approach to monitor diet, recommend meals and promote healthy eating habits.*

NOURICH is an android app developed to monitor the individual's dietary patterns and their weight and assist them in making informed decisions about food choices to maintain a healthier weight. The app can recognize the food image, log them and recommend meal based on user's health condition and preferences. The chatbot version is under development.

### kHealth Asthma | Team Project | Jan 2017 - Present

*A semantic multi-sensory approach to personalize asthma management in children.*

**Contributions:** Analyzed 100 patients data to identify and rank their triggers causing asthma symptoms. Involved in the design and testing of dashboard for the data collected.

### kHealth Bariatrics | Team Project | Lead | May 2017 - Present

*A multi sensory approach to support patient for post surgical behaviour.*

**Contributions:** Designed the system architecture and developed an android app to monitor patients diet and emotional well being. Validated the IoT sensors required for the project.

## EXPERIENCE

### Graduate Research Assistant | Aug 2019 - Present

*AI Institute, University of South Carolina, Columbia, SC, USA*

Working on Knowledge Graph incorporation to enhance food image classification. Developing a nutrition chatbot to track and recommend meals for obesity and educate school children about food and nutrition.

### Graduate Research Assistant | Jan 2017 - Jul 2019

*Knoesis Research Center, Wright State University, Dayton, OH, USA*

Designed a food image to nutrition framework to monitor diet for obese and bariatric surgery patients. Analyzed real asthma patients' data to identify personalized triggers.

### UI Developer Intern | May 2015 - Jun 2015

*Spintum Technologies, Chennai, India*

Designed and developed web pages for e-commerce pharmacy website "Medipik".

### Android Developer Intern | Dec 2013 - Jan 2014

*Nua Trans Media, Chennai, India*

Developed an android app "XNGNotes" where students can trade used books and notes.

## PUBLICATIONS

### Journals

- **Revathy Venkataramanan**, Krishnaprasad Thirunarayan, Utkarshani Jamini, Dipesh Kadariya, Hong Yung Yip, Maninder Kalra, Amit Sheth. **Determination of Personalized Asthma Triggers from Evidence based on Multimodal Sensing and Mobile Application.** JMIR Pediatr Parent 2019;2(1):e14300 DOI: 10.2196/14300 [link]
- Utkarshani Jaimini, Krishnaprasad Thirunarayan, Maninder Kalra, **Revathy Venkataramanan**, Dipesh Kadariya, Amit Sheth, **"How Is My Child's Asthma?" Digital Phenotype and Actionable Insights for Pediatric Asthma.**, JMIR Pediatr Parent 2018;1(2):e11988, DOI: 10.2196/11988. [link]

### Conference Papers

- Dipesh Kadariya, **Revathy Venkataramanan**, Hong Yung Yip, Maninder Kalra, Krishnaprasad Thirunarayanan, and Amit Sheth. **kBot: Knowledge-enabled Personalized Chatbot for Asthma Self-Management.**, IEEE International conference on Smart Computing 2019. [link]

### Posters

- **Revathy Venkataramanan**, Utkarshani Jaimini, Amit Sheth, Joon Shim, Priti Parikh, Dene Berman. **kHealth Bariatrics: A Multisensory approach to monitoring Patient's Postsurgical Behavior.** Presented at: Celebration of Research, Scholarship and Research Activities 2017. Wright State University. [link]
- Vaikunth Sridharan, **Revathy Venkataramanan**, Dipesh Kadariya, Krishnaprasad Thirunarayan, Amit Sheth, Maninder Kalra. **Knowledge-Enabled Personalized Dashboard for Asthma Management in Children**, Annals of Allergy, Asthma & Immunology 121.5 (2018): S42. [link]
- Sarah Sohail, **Revathy Venkataramanan**, Utkarshani Jamini, Dene Berman, Priti Parikh, Amit Sheth, Joon K Shim. **A Multisensory Approach to Monitor Bariatric Patients' Postsurgical Behavior and Lessen Weight Recidivism.** Poster presented at: Obesity Week 2017. 34th ASMBS Annual Meeting; 2017 Oct 29- Nov 2; Washington D.C. [link]
- Amit Sheth, Hong Yung Yip, Utkarshani Jaimini, Dipesh Kadariya, Vaikunth Sridharan, **Revathy Venkataramanan**, Tanvi Banerjee, Krishnaprasad Thirunarayan, Maninder Kalra. **Feasibility of Recording Sleep Quality And Sleep**

**Duration Using Fitbit in Children with Asthma** Abstract in the 32nd Annual Meeting of the Associated Professional Sleep Societies (SLEEP), 2-6 June 2018, Baltimore, MD. [link]

- Amit Sheth, Tanvi Banerjee, Utkarshani Jaimini, Dipesh Kadariya, Vaikunth Sridharan, Krishnaprasad Thirunarayan, **Revathy Venkataramanan**, Hong Yung Yip, Maninder Kalra. **Correlating Multimodal Signals with Asthma Control in Children Using kHealth Personalized Digital Health System**. 2018. [link]
- Utkarshani Jaimini, Hong Yung Yip, **Revathy Venkataramanan**, Dipesh Kadariya, Vaikunth Sridharan, Tanvi Banerjee, Krishnaprasad Thirunarayan, Maninder Kalra, Amit Sheth. **Khealth Digital Personalized Healthcare technology for Pediatric Asthma**. mHealth Technology Showcase, National Institute of Health- June 2018. [link]
- Amit Sheth, Hong Yung Yip, Utkarshani Jaimini, Dipesh Kadariya, Vaikunth Sridharan, **Revathy Venkataramanan**, Tanvi Banerjee, Thirunarayan K, Maninder Kalra. **Augmented Personalized Health: Using Semantically Integrated Multimodal Data for Patient Empowered Health Management Strategies**. mHealth Technology Showcase, National Institute of Health- June 2018. [link]

## REFERENCES

1) Prof. Amit Sheth, Director - Kno.e.sis Center, Wright State University, Dayton, OH, 45435 USA. [amit@knoesis.org](mailto:amit@knoesis.org) , (937) 239-0625 , <http://knoesis.org/amit>

2) Prof. Krishnaprasad Thirunarayan, Kno.e.sis Center, Wright State University, Dayton, OH, 45435 USA. [t.k.prasad@wright.edu](mailto:t.k.prasad@wright.edu) , (937) 775-5109 , <http://www.cs.wright.edu/~tkprasad/>