

# Vandit Agarwal

University of Michigan - Ann Arbor  
Computer Science and Engineering

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## Education

M.S. Computer Science and Engineering 2016-present  
University of Michigan - Ann Arbor

B.Tech Information Technology 2011-2015  
Manipal Institute of Technology, Manipal University

- Cumulative Performance Index (CPI) of 8.80 (on a scale of 10) - Ranked 3<sup>rd</sup> out of 131

## Technical Skillset

### Languages Known

Python, C++, C, C#, Java, Scala, MySQL, Assembly Level Language for Intel 8086 and 8051, Embedded C, HTML, CSS, JavaScript, VBScript

### Technical software

Microsoft Visual Studio, Autodesk Revit, Altera Max Plus II, Oracle SQL, Microsoft Office, EdSim51, MCU 8051 IDE, NetBeans IDE, Eclipse IDE, LaTeX, NS-3

## Publications

**Vandit Agarwal**, Mandhani Kushal and Dr. Preetham Kumar, **"An Improvised Frequent Pattern Tree Based Association Rule Mining Technique with MFI Algorithm and a Modified Header Table"**, published in "International Journal of Data Mining and Knowledge Management Process", March 2015.

## Internships

- **IKA DATA, spol. s.r.o., Prague, Czech Republic - "Dynamic Filters for Data Consistency in Revit; Software for Data Compatibility between Archibus FM and Revit; Add-Ins for Revit"**  
*Mentored by Mr. Milan Hampl, CEO, IKA DATA spol. s.r.o. (July 2015-October 2015)*  
Projects involving dynamic data retrieval from the Revit and Archibus databases developed using API for Revit 2015, C# and .Net Framework, XML, Oracle 11g and MSSQL. It ensured data compatibility between the two data sets. Developed Add-Ins to meet specific requirements of client architects. Work currently deployed and in commercial use.
- **Manipal Institute of Technology - "An Advanced Generalization Based Method to Ensure Privacy and Anti-Discrimination"**  
*Mentored by Dr. Sanjay Singh, Associate Professor, Manipal Institute of Technology (February 2015-July 2015)*  
Research project to investigate the possibility to simultaneously provide for data privacy and anti-discrimination using the common properties involved and generalization hierarchies. Implemented l-diversity algorithm with anti-discrimination using python, which is a new work.
- **AGH University of Science and Technology, Krakow, Poland - "Spray-Based Support for Scientific Web Services"**  
*Mentored by Dr. Marian Bubak, Professor, AGH University of Science and Technology and Dr. Katarzyna Rycerz, Assistant Professor, AGH University of Science and Technology (June 2014-July 2014)*  
Research project to investigate & implement Akka actors with its REST support provided by SPRAY to implement scientific web services (services that perform calculations for scientists).
- **Air India (IT Dept.) - "Automation of Daily Activity Report for System Administration of IT-MRO Project"**  
*Mentored by Mrs. Mukta Khanna, Chief Manager, Air India (IT Dept.) and Mr. Ankur Prakash, Deputy Manager, Air India (IT Dept.) (December 2013-January 2014)*  
Developed an application using C# on Microsoft Visual Studio to simplify the process of locating and opening of a large number of manuals for system administration of IT-MRO project. Work currently commercially deployed.
- **Air India (IT Dept.) - "Automation of User ID Management for RAMCO Aviation Solutions"**  
*Mentored by Mrs. Mukta Khanna, Chief Manager, Air India (IT Dept.) and Mr. Ankur Prakash, Deputy Manager, Air India (IT Dept.) (June 2013-Aug 2013)*  
Developed an application using C# on Microsoft Visual Studio to automate the process of managing limited number of licences for the RAMCO Aviation Solutions software. Work currently commercially deployed.

## Projects

- **“An Improved Frequent Pattern Tree Based Association Rule Mining Technique with MFI Algorithm and a Modified Header Table”**  
*Mentored by Dr. Preetham Kumar, Professor and Head, Information and Communication technology and Ms. Archana Bhat, Asst. Professor, MIT Manipal*  
Implemented an improvised association rule mining methodology using C++ to generate the frequent item sets with no candidate sets and CP-Trees. This algorithm is enhanced both in terms of space and time complexities.
- **“An Articulate Solution to Convolved Problem of Airline Management”**  
*Mentored by Mr. Raghavendra Ganiga, Asst. Professor, MIT Manipal*  
Developed an online airline web-application using advanced Java Programming.
- **“Easy Transfer: An Android Application to Transfer Data Using WiFi or Bluetooth or Both”**  
*Mentored by Mr. K. Krishna Prakash, Asst. Professor, MIT Manipal*  
Developed an Android Application to transfer files over Wifi and/or Bluetooth.
- **“Aqualon++ - A Paint Application”**  
*Mentored by Mrs. Chetna Pujari, Asst. Professor, MIT Manipal*  
Created an application using C++ to perform basic paint operations.
- **“Bus Reservation System”**  
*Mentored by Mrs. Archana Bhat, Asst. Professor, MIT Manipal*  
Developed an application using Oracle 11g database and C# in Microsoft Visual Studio to book bus tickets between major cities.
- **“Compiler for C”**  
*Mentored by Mrs. Swathi B.P. , Asst. Professor, MIT Manipal*  
Developed a basic C compiler using concepts of System Programming.
- **“Line Follower”**  
*Mentored by Mr. Ghanashyama Prabhu, Asst. Professor, MIT Manipal*  
Created a line following robot using Intel 8051 microcontroller and Embedded C.
- **“Aqualon - A Paint Application”**  
*Mentored by Mrs. Manjula C. B., Asst. Professor - Sr. Scale, MIT Manipal*  
Developed a paint application using Java Applets that would let the user play around with simple painting tools.

## Achievements and Additional Activities

- **Top 3** out of 131 in the Dept. of Information and Communication Technology.
- Co-developer of the app **“Fun with English”** which was one of the top 25 apps selected during Microsoft AppFest 2013.
- Attended **“Internet of Things Track”** during **“IEEE SMART TECH Metro Area Workshop Series”** in September 2014.
- Awards: **“Perfect Instrumentalist”**, **“Best Instrumentalist of the Year”**, **“Best Player on keyboard in Orchestra”**, **“School Winner in National Level Vocab Challenger”** and **“Outstanding Performance in all 5 Subjects”**.
- Completed **“Astronomy for Beginners (Level 1)”** and **“Astronomy for Intermediates (Level2)”** conducted by S.P.A.C.E.

## Positions of Responsibility

- **Vice-Chairman** of **“IEEE Student Branch Manipal”** (2013-2014).
- **Represented** the Department of Information and Communication Technology while participating, presenting a poster and presenting views on curriculum at **BTECH Curriculum Conclave, 2014**.
- **Organizer** for the category **“Talks and Exhibition”** in national technical festival TechTatva 2012.
- Worked as as an **active member** of IEEE, IE-CSE, MUTBI, SAE.

## Volunteer Experiences

- Volunteer at **Friends of Tribals Society** (Jan 2016-Mar 2016) - involved in *Van Yatra Program* and *development of in-house software*.
- Volunteer at **ETASHA Society** (Mar 2016-May 2016) - involved in *conducting conversation and computer classes, photography, social media and blogs*.
- Recipient of **Certificate of Appreciation from SOS Village of India**.