

PALANIAPPAN NAGARAJAN

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Seeking a challenging and impactful Software Engineering role.

EDUCATION

University of Wisconsin-Madison Master of Science, Computer Science Coursework: Advanced Databases, Pattern Recognition, Data Science, Machine Learning.	Sep 2017 – Dec 2018 (Expected) CGPA: 3.78/4.0
College of Engineering, Guindy, Anna University Bachelor of Engineering, Computer Science and Engineering	Aug 2010 – Apr 2014 CGPA: 9.12/10

RESEARCH EXPERIENCE

Graduate Research Assistant	UW-Madison	Sep 2017 – Present
<ul style="list-style-type: none">Building an end-to-end cloud/crowd-based Entity matching solution- CloudMatcher.io with Machine Learning and data integration capabilities. This is a joint work with Prof. AnHai Doan.Ported the service to the AWS Cloud and implemented distributed task queue for the steps in ML workflow.		
Researcher	College of Engineering, Guindy	Dec 2012 - Jan 2013
<ul style="list-style-type: none">Built a real-time bus locator and arrival time predictor using machine learning techniques.Featured in The Hindu national newspaper and few other dailies.Invited by Minister of Transportation, Tamil Nadu to present the project to the advisory panel.		

PROFESSIONAL EXPERIENCE

Research Intern – Cloud Services	VMware	May 2018 – Aug 2018
<ul style="list-style-type: none">Developed a log analysis and anomaly detection engine that identifies the source of error on failures.Improved the monitoring of service from automatically detecting anomalies in the log data.Scaled the service to handle 10k logs every minute using MapReduce.		
Software Engineer – II	Cisco Systems	Aug 2014 - Aug 2017
<ul style="list-style-type: none">Experience in full stack, Android application development and Cloud Engineering.Owned and developed a Cloud micro-service that initiates software upgrades in mobile devices.Implemented auto-deployment, scaling, and monitoring of cloud service in OpenStack.Designed Android UI and implemented end to end functionality for TV library traversal, content restriction.‘Top contributor’ award; Supported geo-distributed teams in debugging and troubleshooting issues.Built a RESTful web service with MongoDB as a backend to simulate any cloud service.Developed a cross-platform automation end to end test framework that significantly reduced regressions.		
Intern	Ithoughtz Technologies ltd	Apr 2012 - May 2012
<ul style="list-style-type: none">Developed an Android application that shows traffic density through a route and suggests the best alternative route.		

SKILLS

Programming Languages	Java, Android, Python, JavaScript, C, C++, Shell
Database Technology	SQL, NoSQL (MongoDB, Cassandra)
Tools & Technologies	Docker, OpenStack, Git, Appium, RESTful and Web-Services
Web Frameworks	Django, Node.js, Nginx, Ruby on Rails

PUBLICATIONS

Co-author, “*CloudMatcher: A Hands-Off Cloud/Crowd Service for Entity Matching.*” **VLDB** demonstration (2018). A cloud service that offers Entity Matching and Machine Learning as a service.

ACADEMIC PROJECTS

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- JMapper: JSON Document store for a Relational Database System**
Designed and built a mapping layer for faster reads and writes of a JSON object in PostgreSQL.
 - Entity-centric Contextual Information Retrieval**
Built a Search Engine for Information retrieval based on the Entities and Attributes. Improved Entity Recognition using the meta-data and rules and implemented similarity index to rank the pages.
 - ID3 Decision Tree, Naïve Bayes, Neural Net Learners**
Implemented ID3 decision tree, Naïve Bayes classifier, Neural Network with back propagation for classification problems.
 - Entity Extraction and Entity Matching of Books from disparate sources**
Developed a module that extracts entities along with meta-data from multiple websites and performed Entity Matching.

HOBBY PROJECTS

- **eRailway.co.in**
Built a web service and an Android application for live status, search and enquiry of trains.
- **Recommender System**
Implemented a Recommendation Engine by applying *Collaborating filtering* on a million dataset of user's search history. Awarded first prize in an Innovation challenge held at Cisco.
- **Topic Description for Trends**
Built a web crawler that predicts why a keyword/Hashtag is trending in social media. Built indexes of all news articles and scored the article's relevance to the Hashtag.

AWARDS AND HONOURS

- Regional finalist in National Level Programming Contest (NLPC) 2012, Chennai and winner of several Hackathons and programming contests.
- Cisco Security Expert – Green belt.
- '**Best out-going student**' award; Conducted several workshops on Android application development.