

RAMACHANDRA KOTA

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PROFILE SUMMARY

- More than **6 years of work experience** in Artificial Intelligence, Machine Learning, Smart Grid and IoT.
- Co-authored over **20 publications** (600+ citations) in top conferences and journals in Computer Science.
- Co-inventor of **7 patents filed** in USPTO related to Smart Grid, Chatbots and Blockchain technologies.
- **Project Lead** on several collaborations with industrial clients and academic partnerships.
- Member of the program committee and reviewer for several international AI conferences and journals.

WORK EXPERIENCE

IBM RESEARCH

DEC 2014 – JUL 2017

Research Scientist, Cognitive IoT Solutions

Bangalore, India

Lead client engagements and research initiatives applying **Artificial Intelligence, Machine Learning** and **Big-Data Analytics** for Cyber-Physical Systems such as Smart Grid and Internet-of-Things.

- **Connectivity Models (CM): Technical coordinator** for an engagement with DTE Energy, USA on improving operational efficiency of electricity distribution grids using geospatial and electrical data.
 - Designed learning and optimization based algorithms that improved accuracy by **40%** over baseline.
 - Led the implementation of the proven solutions as a software application that has been deployed at the client premises. The application is now included in the **energy solutions offered by IBM**.
- **OPTi**: Head of a 4-member team in the **€2M** EU project on District Heating & Cooling (DHC) Systems.
 - Developed hybrid approaches to model & predict energy consumption of buildings in DHC networks.
 - Coordinated the experiments, data analysis and validation across the pilot sites in Sweden and Spain.
- **Renewable Energy Forecasting**: Lead a research project on prediction of solar irradiance and power generation of solar plants in India based on weather forecast models and historical measurements.
 - Developed a supervised machine learning based method to fuse forecasts of various weather models.
 - Devised a data-driven irradiance model that improved accuracy by **50%** over the state-of-the-art.
- **Conversational Systems**: Initiated a research project focusing on IBM Watson services and HCI.
 - Built a tool over Watson Conversation Service for generating data-driven, dynamic UI for **chatbots**. Conducted user-study on the design and utility of Messenger chatbots popular in various categories.
- Awarded IBM's **Outstanding Technical Achievement Award** (OTAA) for contribution to the CM project.
- Awarded **2 Team Accomplishments** by IBM for Customer Offering & Accelerated Market Introduction.

SHOWT (FORMERLY GLOBAL STEALTHCO)

JUL 2014 - DEC 2014

Principal Scientist

Hyderabad, India

Showt is an internet startup headquartered in Hong Kong with team members distributed across the world.

Headed the teams working on the AI and Data Science aspects of the product – a worldwide voting platform.

- Developed the search functionality based on user activities and externally scraped data. Also, designed and led the development of **real-time analytics** such as trend analysis and summarization in the platform.
- Some of the technologies used were AWS, Cassandra, Ruby, PHP, Redis and MongoDB.

SECURE METERS (UK) LTD.

FEB 2010 - APR 2012

Research Engineer

Winchester, UK

Secure Meters Ltd. is a leading MNC providing smart solutions for energy measurement and management.

Worked with the top management (CTO & Chief Scientist) at Secure Meters on new R&D initiatives to apply AI, Machine Learning & Multi-Agent systems to drive innovation and build in-house expertise in Smart Grid.

- **Company Liaison:** Was the sole representative of the company on two vital academic-industrial projects.
- **iDEaS Project** – An engagement worth **£ 1M** with University of Southampton focusing on decentralized control, operation and efficient management of future generation electricity networks and smart homes.
- **Orchid** – A UK Govt. project worth **£ 5.5M** involving Universities of Oxford, Nottingham, Southampton and BAE Systems to develop multi-disciplinary approaches for the domains of disaster response and smart grid.

UNIVERSITY OF SOUTHAMPTON

FEB 2010 - JAN 2014

Visiting Research Fellow, Agents, Interactions & Complexity Research Group

Southampton, UK

Collaborated with university researchers based on the iDEaS and Orchid projects with Secure Meters Ltd.

- **Automated Home Energy Management System:** Developed solutions for optimizing energy usage of HVAC systems based on localized weather modelling and user behavior using machine learning techniques.
- **Game-theoretic Solutions:** Designed pricing mechanisms for formation and operation of cooperatives of small renewable producers, storage providers (like EVs) and consumers participating in energy markets.

EDUCATION

PhD, COMPUTER SCIENCE

UNIVERSITY OF SOUTHAMPTON, UK

Advisors: Prof. Nick Jennings & Dr. Nick Gibbins

2006 - 2009

Thesis Topic: 'Self-Adapting Agent Organisations'

Field: Artificial Intelligence

- Focused on self-organisation in Multi-Agent Systems and proposed decentralized adaptation methods for task-oriented networks. Application domains include multi-robot teams and autonomic systems.
- Nominated for **best student paper award** at AAMAS '09, a top-rated international AI conference.

B.TECH (HONS), COMPUTER SCIENCE & ENGINEERING

IIIT HYDERABAD, INDIA

CGPA: 8.97/10

2002 - 2006

- Led the university team *Kshitij* in [RoboCup](#) 2005 (*Rescue Simulation League*) held at Osaka, Japan and secured **3rd position**. RoboCup is an annual international event promoting research in Robotics. We were the only Indian team among the 30 university teams from across the world that qualified to the league.
- Represented IIIT Hyderabad in *ACM Inter Collegiate Programming Contest, Asia Regional* in 2005.
- Head of the Organizing Committee of "Threads", the technical college festival in 2005. It hosted more than 10,000 participants from local, national and international institutes.
- Listed in the IIIT Hyderabad Dean's Scholarship List for all 8 semesters (*top 5%*).

RESEARCH & TECHNICAL SKILLS

- Java, C/C++, Python, R, Spark, TensorFlow, MATLAB/Octave, Shell scripting, SQL, NoSQL (MongoDB)
- Over 20 peer-reviewed publications - detailed list available at <http://mythalez.net/publications.html>