

Rahul Roy Mattam

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EDUCATION

- **University of Arizona** Tucson, AZ
Pursuing Master of Science in Computer Science; GPA: NA **Expected May 2020**
- **Cochin University of Science and Technology** Cochin, India
Bachelor of Technology in Computer Science; GPA: 3.4 (74.86/100.0) **March 2015**

WORK EXPERIENCE & KEY PROJECTS

- **University of Arizona** Tucson, AZ
Graduate Research Assistant *Aug 2018 - Present*
 - **Fake Science Classifier:** Researching ELMo embeddings based Enhanced LSTM neural networks in the PyTorch Framework to classify fake science articles using **Python** in a UNIX environment.
- **FactSet Research Systems Inc** Hyderabad, India
Software Engineer *Jun 2015 - July 2018*
 - **Team:** Worked with a global team of 20 engineers on 15+ projects serving 1600+ internal clients.
 - **Distributed Cache Service:** Developed a distributed REST API written in **Go** and hosted on **Heroku**, which reduced the latency of client apps by 95%, provided 10 times more cache space and saved \$48,000 per year in Redis Enterprise license costs by load balancing and distributing objects cached across free **Redis** slave instances. Served as an individual contributor and project owner.
 - **Data Validation:** Developed a dynamically configurable rule-based financial data validation service in **C#** and **WPF** which helped to capture over 98% errors in data exported to clients.
 - **Fast Feed Sync:** Developed a service that synchronized reference tables to several **MSSQL** databases from a data feed in large batches reducing latency due to update failures by 97.5% with a divide and conquer recursive error handling strategy. Served as an individual contributor and project owner.
 - **Gopkg:** Hosted an in-house version of the gopkg.in service to work with internal Golang Git repositories.
 - **Equation Automation with Elastic Search:** Improved automated collection of financial expressions by 65% from company earnings reports by indexing arithmetic expression patterns in **Elastic Search** and comparing context similarity with historically processed company earnings reports having similar arithmetic expressions.
 - **Workflow Microservices:** Refactored a monolithic **C# Signal-R** service to a **Golang** microservice architecture hosted on **Heroku** improving site reliability by 90%. Developed by a team of 3 engineers, the services managed user workflows using web-sockets and **Redis** channels for synchronizing real-time data across client connections.
 - **Equation Generation via Genetic Algorithm:** Built a **C#** service to find an arithmetic expression connecting a bag of values using a genetic algorithm reducing memory utilization by 66% because of faster convergence detection compared to backtracking. The Genetic algorithm allowed to abort after a reasonable number of failed attempts in the case of inconsistent inputs without a valid expression.
 - **Markov Decision Process:** Built a prediction service that utilized probabilities of code execution in a Markov decision process matrix to reduce latency by 10% and suggests user actions in the UI.
 - **Jenkins CI & GIT:** Configured 40+ services that were deployed using batch scripts to take advantage of Jenkins CI. Advocated Git for source control and migrated 80% of team-owned source code and version control history maintained in Perforce SVM to GitHub Enterprise using a git-p4 python script.
- **Yoyo Aerospace** Cochin, India
Software Engineer Intern *Summer 2014*
 - **Home Automation:** Developed an Android Application in **Java** that controlled an Arduino Microcontroller installed on target home automation devices via Bluetooth.
- **Personal Projects:**
 - **Redis Master:** An implementation of Redis Master in **Go**. <https://github.com/rmattam/redis-master>
 - **Cloud IDE for C:** **Node.js** instance of Codemirror UI on top of gcc compiler with a custom Trie based Autocomplete and code search implementation. <https://github.com/rmattam/cloudIDE>

SKILLS

- C#, Python, SQL, Go, Java, Javascript, HTML, Heroku, Elastic Search, Redis, Docker, AngularJS, Node.js