

Athul Sreemathy Raj

Montréal, QC | athuljayaraj@gmail.com | +1 (438) 728-3789 | [LinkedIn](#)

EXPERIENCE

MyCircle

Oct 2025 - Now

Personal Project

- An app to visualize and introduce your circle of friends
- This is a practice project with the backend written in C# and .NET, and the frontend in React
- Sample data is hard-coded in the backend, and the UI displays it
- CORS is enabled for local development
- Upcoming features
 - Read the list of friends from JSON in the backend
 - Using a viz library(like *visx*), represent the friends as a graph of vertices and edges
 - Represent mutual connections by varying colours or the style of edges
 - Represent years of friendship using the size of the nodes
- Ambitious features
 - Seat mutual friends on a table, given the number of tables and seats per table
 - Use a geo-chart and markers to represent the circle on the world map

Technologies and Tools: C#, .NET, React, VSCode, GitHub

Repository: <https://github.com/athuljayaraj/MyCircle>

Developer, Digital Platform

Aug 2024 - Now

Air Canada - Montréal, QC

- Replaced YMLs(serverless) with TS code(CDK) for the deployment of AWS resources in CloudFormation
- As a team of 2, we carried out the transformation of moving privacy preferences from an existing source(Gigya) to OneTrust
 - Implemented a Lambda service to accept events from OneTrust upon profile creation and update
 - Implemented a GlueJob using PySpark to export customer preferences to Adobe for marketing, through MFT
 - Created pre- and post-deployment checklists to validate the success of the transformation
- Developed the Lambda to recommend flights while updating an existing itinerary
- Developed the Lambda to return the trip(bound) summary, added access-control and error-handling

Technologies and Tools: Node.js, Python, PySpark, Amazon Web Services(AWS), Lambda, Glue Job, Visual Studio Code(VSCode), Bitbucket(*initial*), GitHub(*current*)

Senior Software Engineer - Contract

Feb 2023 - Aug 2023

DynamoAI - San Francisco, CA

- Streamlined the licensing of Dynamo's federated learning(FL) platform - this reduced the client's requirement to download more than 5GB(whole package) down to 1KB(only the license file) during a license update
- Created an automated pre-flight checklist validation Python script that reduced setup time by 50% and the number of synchronous meetings with customers from 4+ to just 2

- Led the backend transformation from vanilla Node.js into NestJS with 3 engineers - this significantly improved code readability and the team's coding culture
- Co-architected and led the backend development of a pen-test product that evaluates the privacy and security of large language models(LLMs) - currently used by more than 3 major customers
- On-boarded 2 new joiners into the team through one-on-one meetings and tech walk-throughs

Technologies and Tools: Node.js, NestJS, Typescript, React, Python, Amazon Web Services(AWS), Kubernetes, MongoDB, Docker, Notion, Visual Studio Code(VSCode), Swagger, GitHub

Full-stack Engineer - Contract

Jan 2022 - Dec 2022

Ruse AI - Montréal, QC

- Enabled themes to help improve visual accessibility and customizability of the app made with Flutter
- Added audio support to fully engage the users in the gamified experience of a poker trainer
- Implemented a fully managed subscription feature for the app using Stripe
- Integrated Sentry to monitor the backend service in Node.js; created *Judy*, a bot that sends Sentry alerts to developers through Slack
- Load-tested and verified the API's dynamic horizontal scaling rules on AWS EC2 using Apache JMeter to handle estimated future traffic growth
- Created a comprehensive document about the product's cloud architecture and database design

Technologies and Tools: Flutter, Node.js, NestJS, Typescript, MySQL, VSCode, AWS, Kubernetes, JMeter, Github, Atlassian stack, Stripe, Swagger, Sentry

Senior Software Engineer

Aug 2020 - Aug 2021

KeyValue Software Systems - Kochi, India

- Developed the backend in Node.js for an MVP of an e-commerce platform in 3 months, and productized it (>1 million users), ensuring more than 90% unit-test coverage(Jest)
- Designed an efficient database structure for the product in PostgreSQL(Postgres) that reduces data redundancy and upholds extensibility in *dbdiagram.io*
- Implemented a queue-based asynchronous solution to generate and verify TOTP during customer profile generation using GCP Pub/Sub(queueing) and Sendbird(SMS)
- Led a team of 3 to create an independent module for logistics, and completed the integration of 7 different logistics partners within 2 months
- On-boarded and trained multiple freshers as well as new joiners into the team through one-on-one meetings and tech walk-throughs to familiarise them with the product's architecture and behaviour

Technologies and Tools: Node.js, NestJS, Jest, Postgres (PostgreSQL), GraphQL, React, Redis, Sentry, Google Cloud Platform(GCP), Kubernetes, Confluence, Pivotal, Swagger, VSCode, Linux

Senior Software Engineer

Dec 2019 - Aug 2020

Shopalyst Technologies - Thiruvananthapuram, India

- Enforced project structuring, removed redundant and unused code, and mandated code formatting using Black for Python within the team
- Improved unit test coverage from <30% to ~70% for a codebase of more than 100 independent scripts
- Took up the role of a Technical Solutions provider to help Customer Success teams devise and deliver technically feasible solutions at the earliest

Technologies and Tools: Python, Elasticsearch, Cassandra, Redis, Kibana, VSCode, Asana, GitHub

Senior Software Engineer

Apr 2017 - Dec 2019

Flytxt Mobile Solutions - Thiruvananthapuram, India

- Developed POC for an experience-centric cloud solution using Vue.js for targeted marketing, including voice-based control, dynamic themes, Salesforce integration, and a chatbot
- Developed the API for a centralized ML platform in Java and Spark that accepts ML inference requests from various products across the organization
- Developed a conversational agent demo on Firebase, to be presented at MWC, Barcelona, that utilized Google Assistant to guide marketers in choosing the right targeting method for marketing campaigns
- Onboarded more than 10 fresh engineers into different engineering sub-teams

Technologies and Tools: Vue.js, Node.js, AWS, Lambda, DynamoDB, Java, Spark, GitHub, Linux

Software Engineer

Jul 2015 - Mar 2017

Flytxt Mobile Solutions - Thiruvananthapuram, India

- Awarded the “Best new-joiner” for improving the speed of estimated audience calculation for an Ad targeting solution more than 100 times by porting ~250 million records from MySQL to Elasticsearch
- Replaced the existing application interface for OBD and MMS gateways with that of a new vendor that offered a 50% increase in successful deliveries of creatives

Technologies and Tools: Core Java, Spring Boot, JUnit, BDD, Cucumber, Eclipse, Maven, JSON, RDBMS, MySQL, NoSQL, Elasticsearch, Kafka, Hadoop, JAX-RS, REST, Atlassian, Gitlab, Linux

EDUCATION

Master of Applied Science(M.Sc.A) in Computer Science

Sep 2021 - Jun 2023

Polytechnique Montréal, Canada

Published [FedSHIBU](#) - an algorithm for training models on highly heterogeneous data distributions
NeurIPS 2022: FL-Workshop Poster - [Paper](#)

Technologies and Area: Python, PyTorch, WandB, Overleaf(Latex), Security, Privacy, Machine Learning

Bachelor of Technology(B.Tech) in Computer Science

Sep 2011 - Apr 2015

T.K.M College of Engineering, University of Kerala, India