# Archana Pradeep

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## EDUCATION

**UNIVERSITY OF CALIFORNIA SAN DIEGO**
MS in Computer Science
Grad. March 2025

**NATIONAL UNIVERSITY OF SINGAPORE**
BEng in Computer Engineering
Grad. June 2020

## SKILLS

Experienced:
Java • Golang • Python • C

Familiar:
Typescript • PyTorch • Tensorflow • SQL • NoSQL (MongoDB) • Kafka

## LINKS

Website:// archanapradeep
Github:// archanapradeep
LinkedIn:// archanapradeep

## TEACHING

Python for Data Science (DSC207R)
**Fall 2023**
Programming Methodology (CS1010)
**Fall 2018**
Embedded Systems Design Project (CG3002, CG4002)
**Fall 2019** , **Spring 2020**

## COURSEWORK

Recommender Systems and Web Mining
Probabilistic AI and Reasoning
Advanced Computer Vision
Natural Language Processing
Graduate Network Systems
Intro to Artificial Intelligence
Software Engineering
Data Structures and Algorithms
Computer Architecture
Real Time Operating Systems

## VOLUNTEERING

2022 Mock interview session for General Assembly graduates

2022 Code in the Community
Volunteer for L2 Python

## ACHIEVEMENTS

2022 **Scholarship Recipient** AWS Machine Learning Engineer Scholarship Program

2022 **Bronze Medal** 15th National Taekwondo Poomsae Championships

2021 **Spot Award** Grab

2019 **Third place** 14th STePS under CS3243 Artificial Intelligence

## EXPERIENCE

### NVIDIA | Software Intern - AI Infrastructure
Jun 2024 - Sep 2024 | Santa Clara
- Intern on the **Autonomous Vehicle** team
- Designed a self-serve API in **Go** for internal stakeholders that can bypass a manual workflow thereby improving team's productivity by 15%
- Led migration efforts to unify data and streamline architecture, migrating 12,000+ lines of functional tests from **SQLite** to **PostgreSQL** for accurate production environment emulation.

### NATIONAL UNIVERSITY OF SINGAPORE | Research Assistant
Jul 2022 - Jul 2023 | Singapore
- Worked with Prof **Roger Zimmerman** and Prof **Ooi Wei Tsang** on multi-camera computer vision in video surveillance in collaboration with Seagate and funded by AI Singapore
- Increased object detection speed by 7x by changing model from **Faster R-CNN** to **YOLOv3**
- Integrated **YOLOv7** for faster and more accurate tracking
- **Built end-to-end pipeline** of transferring bounding-boxes and person features from multiple Jetson Nanos (multi-cam) to a central server using **REST**

### GRAB | Senior Software Engineer
Aug 2020 - Jul 2022 | Singapore
- Backend engineer on the Digibank team, **Spot award winner** for contributions to onboarding.
- Authored & maintained **microservices** for onboarding, user verification in **Go** .
- Built a bootstrap framework for microservices, supporting **logging, middleware, http routing, graceful shutdown** .
- Designed KYC document upload flow with **Kafka, AV scanning, AWS S3** , and in-house RTC.
- Developed Customer ID generation using **RDS, Redis**

### SHOPEE | Data Engineer
Jun 2020 - Aug 2020 | Singapore
- Worked on the internal version of **Apache Airflow**
- Used **Docker and Python** to improve efficiency of task schedulers by reducing the work done by each scheduler to 50%

### VISENZE | Software Engineer Intern
Dec 2019 - Jan 2020 | Singapore
- Implemented gRPC endpoints to replicate existing REST APIs, using **Python, Java** for the **Data Platform Team**

### AMAZON | Software Development Engineer Intern
May 2019 – Aug 2019 | Berlin, Germany
- Built auditors and automated billing processes using **Java, Node.js, AWS Lambdas, SQS, SNS** on the **AWS Bill Generation Team** .

### AUTODESK | Software Development Intern
May 2018 - Oct 2018 | Singapore
- Worked on building a **Chaos Engineering** tool with **AWS** (EC2, S3, IAM, SimpleDB, DynamoDB), **Java** , **Bash Script**
- **Inner sourced** within Autodesk and used by **6 teams** on Staging and Dev applications.

## PROJECTS

### MEDINQUIRE AI | Biomedical NLP Project
- Developed a medical chatbot using **Retrieval-Augmented Generation (RAG)** with contextual query enhancement, combining **FAISS-based** document retrieval and **GPT-4-powered** response generation for clinical insights extraction. Repo :// here

### IMPART | Advanced Computer Vision Project
- Adapted RA-CLIP for noisy datasets, optimizing image-text pairing and performance on tasks like CCTV frame identification and diagram matching. paper:// here

### NETFLIX/SIMIANARMY | Open Source Contribution
- Fixed an issue where network chaos scenarios not running. view PR :// here
- Added instructions to create SimpleDB using AWS CLI to documentation