NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

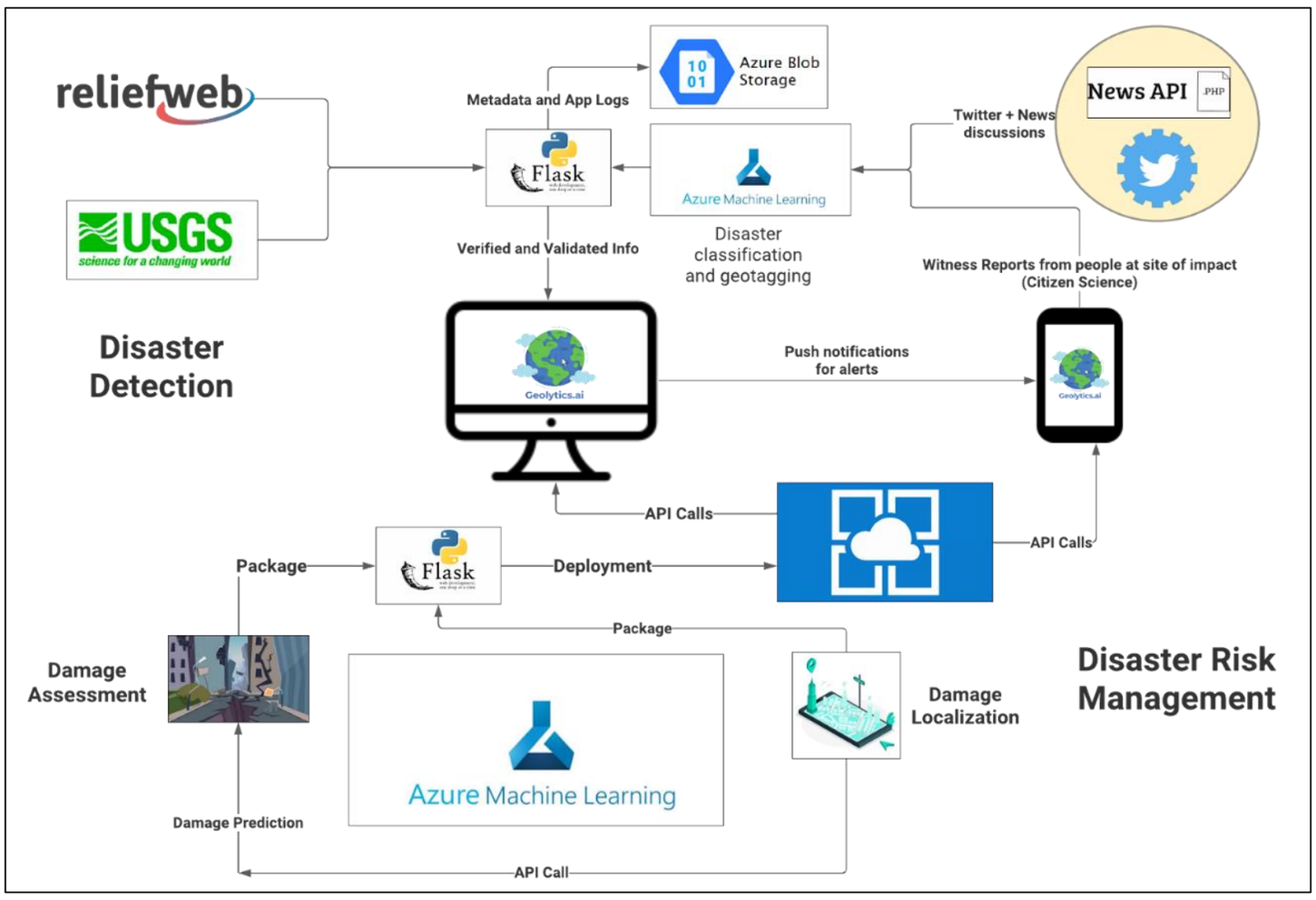
School of Computer Science and Engineering
College of Engineering

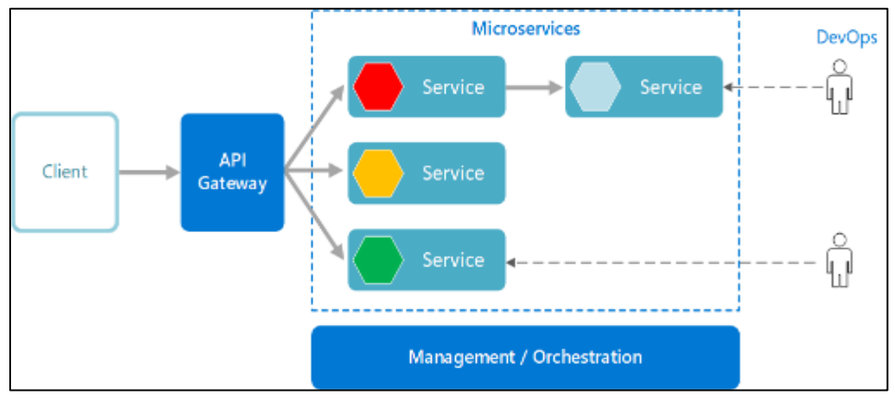
Disaster Risk Management

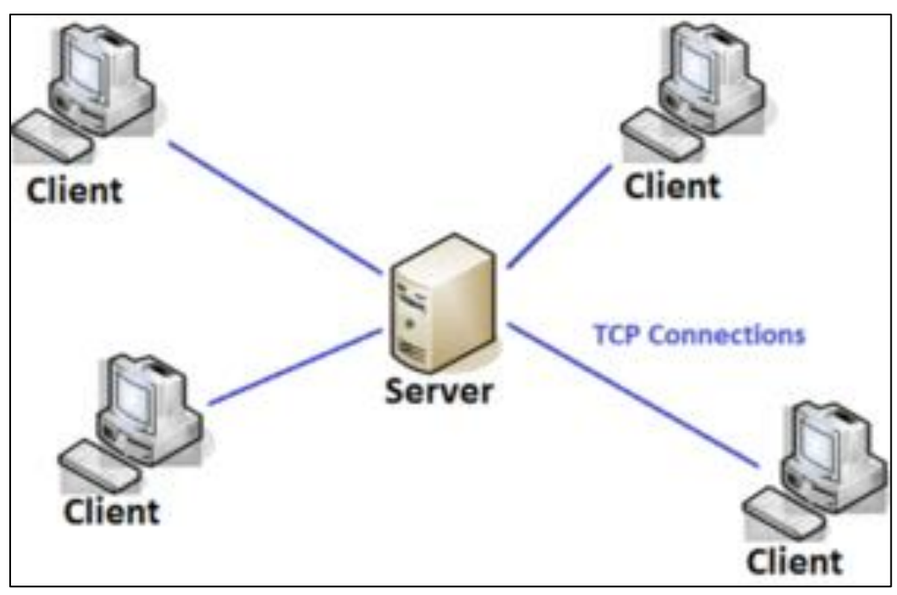
with Geolytics.AI

Student: Bhatia Ritik

Supervisor: Dr Sourav Sen Gupta







Project Objectives:

This project aims to create Geolytics.AI – a software solution to aid Disaster Risk Management (DRM). The main motivation is to leverage the power of technology to build disaster-resilient communities and accomplish the 11th Sustainable Development Goal – "**Sustainable Cities and Communities**" as laid down by the United Nations. Geolytics.AI is powered by 3 major services to cater to a diverse user base – **Disaster Detection**, **Damage Assessment** and **Organizational** Workflows. Using state-of-the-art **Deep Learning** models for disaster classification and damage assessment, **Natural Language Processing** models for citizen-science and **efficient REST APIs** for government information, Geolytics.AI delivers information through a cross-verified and validated pipeline, that addresses several shortcomings such as the distinct lack of technological innovations in DRM strategies of **56.4%** of the countries, **manual sifting** through massive amounts of data that leads to loss of lives and mass panic that spreads due to fake news and **high false reporting rates** of existing Early Warning Systems.

Geolytics.AI's services are already live and can be easily accessed through REST API calls and public URLs. The market for DRM is expected to grow **7.4% YoY** to a huge **US$ 250 billion** by 2028, visible from graph on the right. Coupled with the current **27% YoY** growth in frequency of disasters, demand for DRM systems is high. Hence, this has huge potential to be a **sustainable business**.