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Aditya Kumar

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EDUCATION

College Station, TX **Texas A&M University** **August 2018 – May 2020**

- Master of Science in Computer Science. **GPA: 4.0/4.0**
- Major Coursework: Artificial Intelligence; Machine Learning; Neural Networks; Cloud Computing
- Graduate Assistant (GA) in the Department of Information Technology, Division of Student Affairs

Calicut, India **National Institute of Technology** **July 2012 – May 2016**

- Bachelor of Technology in Computer Science and Engineering. **GPA: 9.37/10.0**

LANGUAGES & TECHNOLOGIES

- C++ (Proficient), Java (Prior Experience), C, Python, MySQL, Shell Scripting, PHP, HTML, CSS
- Git, GNU Debugger, Lex, Yacc, Laravel, JavaScript, jQuery

EXPERIENCE

Software Development Intern **Amazon Inc.** **June 2019 – August 2019**

- Developed and launched highly-scalable internal service **(1000 TPS)** based on service-oriented architecture (SOA) using various AWS technologies like DynamoDB, Lambda, S3, etc. (Java, Python, SQL, shell).
- Automated data migrations with distributed job scheduling and built a responsive single-page application (SPA) in React.js for the service which is used for analytics.

Software Engineer, R&D **Sandvine Technologies** **June 2016 – July 2018**

- Automated parameter calibration in fuzzy control system by developing service using C++ capable of monitoring network traffic over **100,000 locations**.
- Designed REST APIs for traffic shapers in C++ enabling dynamic policy enforcements without system reloads. This saves **9 hours** (average) of maintenance time per month.
- Developed hash map and timers based internet traffic classification mechanism in C++ improving identification of applications that rely on third-party services by **90%** (on average).
- Improved system reloads time by **10%** using efficient data structures like maps/sets and removing file-based configuration reads. (C++)

PROJECTS

- **Reverse Image Captioning:** Developed Generative Adversarial Network (GAN) which takes textual description as input and generates image fitting the description. (Python, PyTorch)
- **Deep Person Re-Identification:** Developed occlusion immune Re-Id model using Random Erasing and reduced pose variation influence by using Pose normalized Generative Network(GAN). (Python, PyTorch)
- **Sentiment analysis (ML):** Natural language processing (NLP) project to classify reviews as positive or negative using Multinomial Naive Bayes Classifier in Python.
- **Sandvine Genie (Hackathon Winner):** Developed voice controlled system capable of detecting/reporting unusual internet traffic trend based on probe results. (PHP, "api.ai")
- **Kernel based simulation study of RSDM-A:** Enhanced memory management unit of Xen hypervisor by adding in-memory table to prevent rollback attacks and published the research in IEEE ISCBD 2107 (C, C++)

ADDITIONAL INFORMATION

- **Leadership:** Treasurer(August 2018 – Present), Computer Science Graduate Student Association(CSEGSA)
- **MOOCs:** Neural Networks and Deep Learning by deeplearning.ai; Structuring Machine Learning Projects by deeplearning.ai; Machine Learning by Stanford University on Coursera; Design Patterns on Udemy