University of Victoria

Sunil Kumar

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I am a second-year master's student at the University of Victoria with 3 years of full-stack software development work experience. I am seeking full-time opportunities to use my skills for the organization's success and learn new skills in cutting-edge technologies being used in the industry.

Education

M.Sc. in Computer Science — Expected Dec 2020
University of Victoria, BC, Canada.

Thesis: Deep Reinforcement Learning in games in self-play settings.

B.Tech. in Information Technology — May 2014
NIT Durgapur, West Bengal, India.

Technical Skills

- **Languages**: Java, Python, JavaScript, SQL, C/C++, HTML5, Golang.
- **Tools & Frameworks**: Git, PyTorch, REST, JSON, Google Web Toolkit (GWT), JDBC, Hibernate, Electron, AngularJS, Excel, JasperReports, Docker, Kubernetes, gRPC.
- **Concepts**: OOPs, Data Structures, Machine Learning, Agile practices, Deep Learning.
- **Operating Systems**: Windows and Linux.

Experience

Teaching Assistantship / University of Victoria, Victoria, Canada. — Jan 2019 – Aug 2020

- Conducted labs, exams and marked assignments for 300 level computer science courses(Database systems and Digital Logic).

Technical Associate / Zillious Solutions, New Delhi, India. — July 2018 – Dec 2018

- Developed a scalable workaround for size limitation of java enums with minimal changes in the application.
- Added support for customizable vouchers and integrated multiple payment gateways, including *Razorpay, Paytm,* etc.
- Integrated a pre-developed machine learning model into the application for finding duplicate hotels. Decreased the time for marking duplicate hotels by 90% in live search results for hotels.

Software Developer / Drishti-Soft Solutions, Gurugram, India. — June 2014 – Sep 2016

- Awarded with Excellence Award 2016 and won */tmp* 2014 a 10 days 24x7 coding event.
- Majorly worked on Ameyo Report, a GWT based front-end, and Jasper based backend; the work includes a new UI, backend enhancements, and automating the generation of *Transformers*, a data de-normalization component, by using EMF modeling.
- Increased performance for a major customer's database server by 90% using table partition and multicolumn indexes.
- Increased performance of a statics managing component by 60% using soft references based cache for reflective calls.
- Developed a context-aware report designer with the Front-end based on GWT with data populating based on Eclipse Modeling Framework (EMF) model instances and outputs a proprietary file format (.drxml), which converted by the backend into a JasperReports based object. It was used to give demos to international customers as a future project.
- Created *Magic Numbers*: Predicts hardware requirements (CPU, RAM, and HDD) based on customer functional requirements.
- Created a report scheduler based on the Quartz library with support for centralized reporting and graphical reports.
- Delivered components for the automation of the collection process for an major Indian Bank. Implemented a fresh UI, Integrating Hitachi Content Platform (HCP) for report storage, created a custom SSO authentication server & various domain-specific features like *Centralized Exclusion*.
- Interviewed candidates, prepared questions, and did the training for new employees for the 2016 and 2017 hiring seasons.

Software Developer Intern / Morphing Machines, Bangalore, India. — June 2013 – Aug 2013

- Designed and developed the front-end interface for a research project called 'Development of A Flexible Framework for A Network On Chip'. Research paper link - git.io/Jen9I.

Projects

- **DOTA2 win prediction** (git.io/JvB5P): Fetch the data using Steam API, then did data transformation (one-hot encoding, etc.) and applied nine different machine learning algorithms (Logistic Regression, Ada Boost, etc.) to predict the winning team.
- **Matchmaking for online multiplayer games** (git.io/JenE4): Created and deployed a working demo for ten-player deathmatch matchmaking server using docker images deployed on a single Kubernetes cluster on Google Cloud Platform and then analyzed the system using Grafana and Prometheus services.
- **DQN agent for Coinrun** (git.io/JvB5r): Implemented DQN and DoubleDQN algorithms from scratch to play the Coinrun game.
- **College Study Point Website**: A web portal where students can upload documents and comment on them.