Abhinav Agarwal

CS Graduate student at University of Washington skilled in full stack development and machine learning, looking for Summer 2022 software development internships

✉ abhina2@uw.edu github.com/anshabhi anshabhi.github.io in mrabhinavagarwal

EDUCATION

Master of Science in Computer Science and Software Engineering, *University of Washington* — Sep 2021 – 2023, Bothell, WA
Expected Coursework: Machine Learning, Algorithm Design, and Analysis, Advanced Topics in Computer Vision, Evaluating Software Design, Software Management, Multimedia Database Systems

Bachelors of Technology (Information Technology), *Manipal Institute of Technology* — Jul 2017 – Jul 2021, Manipal, India
Relevant Coursework: Data Structures, Distributed Systems, Operating Systems, Pattern Recognition, Big Data Analytics, Data Warehousing, Data Mining, and Advanced Calculus

PROFESSIONAL EXPERIENCE

Graduate Student Research Project Member, *Sponsored by Microsoft, Nvidia and UW* — Apr 2021 – present, Seattle

- Performing several studies to evaluate how *artificial intelligence* could be more *energy-efficient*.
- Centered around **Yolov4, GPT3, BERT,** and **Turing-NLG** implemented in **Pytorch** and **ONNX**.

Software Development Engineer (SDE) Intern, *ICICI Lombard* — Feb 2021 – Jul 2021, Mumbai, India

- Built *new APIs* for 5 different customer-facing **ASP.NET** applications using **SQL** database.
- Migrated a project with *multiple tables and procedures* from *MS SQL to Oracle SQL* Database.

Summer Intern, *Xu Labs, Carnegie Mellon University* ↗ — Jul 2020 – Nov 2020, Remote

- Used *Parameter Pruning & Quantization* to reduce the size of a large and complex **Tensorflow** *convolution neural network* by 75% while preserving up to 70% of original accuracy.
- Built a *GUI web application* for exploration of MRC models using **Django** framework and *Metro UI*

LANGUAGES AND FRAMEWORKS EXPERIENCED IN

Programming	Web Development	Machine Learning	Databases
C, C++, C#, Java, MATLAB	*HTML,CSS, JavaScript, NodeJS, Nginx, Django*	*R, Python, Tensorflow, Pytorch, ONNX*	*MS SQL, Oracle SQL, My SQL, MongoDB*

CERTIFICATES

Business Foundations Specialization ↗	Deep Learning Specialization ↗	Data Science Specialization ↗	Machine Learning for Trading ↗
By Wharton School of Business (online)	*By deeplearning.ai*	*By Johns Hopkins University (Online)*	*By Google Cloud, New York Institute of Finance*

PUBLICATIONS

Dynamic Identification of Learning Styles in MOOC Environment Using Ontology Based Browser Extension, *International Journal of Emerging Technologies in Learning (iJET)* ↗ — Jun 2021

- Developed a Firefox *browser extension* that **scrapes** usage data from MOOC platforms.
- Built Using **NodeJS** running on free **GCP AppEngine**. Converts *JSON* data into *SQL* for storage
- Designed *Python scripts* to generate *recos* from the collected data by predicting **FSLSM** styles.

(Under Review) Natural Language Query Formalization to SPARQL For Querying Knowledge Bases Using Rasa NLU Pipeline, *Natural Language Semantics* — Aug 2020

- Designed an **NLP-based** conversational AI agent (*chatbot*) using **RASA NLU** and **Python** to query **OWL ontologies**. Converts plain english language queries into SPARQL queries.
- Built *scripts* to use RASA's internal testing suite and achieved up to *97%* keyword accuracy.

SELECTED PROJECTS

Portfolio Website, *Published a website using Gatsby/React.js on GitHub Pages* ↗ — Jun 2021

- Deployed VM on *Oracle Cloud* with 4 **ARM** vCPUs and 24 GB RAM for hosting live *demos*.
- *Installed Ubuntu, Node, Nginx, PM2, Mayavi, and NoMachine* in an **AARCH64** environment.

Facial Recognition Attendance System, *Lightweight and browser based prototype* ↗ — Mar 2020

- Uses *Microsoft Azure APIs* for face validation and **MongoDB** as the application database.

Electronic Assessment System, *Full-featured, production-ready and lightweight* ↗ — Aug 2019

- Developed as per the **custom requirements** of my instructors at my undergrad college.
- Contains 20 **AJAX APIs** built using NodeJS **Express** and **Nginx**. Uses *MySQL* as the database.
- The frontend is built using *HTML5/CSS3* based Metro UI. Uses **Memcached** for session encryption.