Shaswat Babhulgaonkar

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CAREER SUMMARY

A passionate and data-driven individual currently working as a Software Engineer - Machine Learning Affiliate at Berkeley Lab having experience in Machine Learning and Software Development interested in exciting opportunities.

EDUCATION

Master of Science: Computer Science **California State University East Bay, USA** **(GPA: 3.7/4.0)**

Courses: Machine Learning, Adv. Algorithms, Cloud Computing, Web Systems, Adv. Computer Networks, Statistics **(Exp May 2021)**

Bachelor of Engineering: Computer **Savitribai Phule Pune University, India** **(GPA: 8.3/10.0)**

Courses: Software Engineering, Artificial Intelligence, Deep Learning, Data Science, Data Analytics, Data Mining, OOP, Databases

WORK EXPERIENCE

Software Engineer – Machine Learning Affiliate **BERKELEY LAB, Berkeley, USA** **(Jun 2020 - Present)**

- Worked on software development project with Machine Learning for Prediction of Fracture Growth in rocks using Python programming
- Explored experimental and numerical results for scientific data analysis with Exploratory Data Analysis and Data Visualization process
- Performed data modeling using various ML and Deep Learning models such as CNN with PyTorch, OpenCV, U-Net for image analysis
- Fine-tuned hyperparameters, used confusion matrix for best prediction model to evaluate performance results on validation and test set

Software Developer – Machine Learning **WE33RAS IT PVT. LTD, Pune, INDIA** **(Jul 2018 - Jul 2019)**

- Researched on different machine learning techniques for recommendation systems such as Content-based filtering, Collaborative filtering, Alternating Least Squares, Hybrid methods as well as deep learning techniques
- Developed a recommendation system based on the purchase history of customers along with the similar item recommendations
- Performed modeling and evaluation of various ML Algorithms and Deep Learning architectures using TensorFlow, Keras and PyTorch
- Led a team of software developers to assure best practices of the full software development life cycle process for software products
- Worked as Full Stack Software developer for ML software platform using Agile methodologies and managed the role of Scrum Master

Software Developer **WERAS INFOTECH, Vaijapur, INDIA** **(Sep 2017 - Jun 2018)**

- Built software solutions for various use cases based on the requirements with programming software using Python, Java and C++
- Collaborated cross-functionally with product, marketing and engineering teams on product research and development
- Actively involved in design, development and implementation of software applications that satisfy core business requirements

TECHNICAL SKILLS

Programming Languages:	Python, Java, C++, C
Machine Learning:	NumPy, SciPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, PyTorch, Keras, OpenCV, LSTM, ANN
Cloud Platform:	Amazon Sagemaker, AWS lambda, EC2, S3, Google Cloud Platform, Azure, Kubernetes
Web Technologies:	HTML5, CSS3, JavaScript, AJAX, ReactJS, Node.js, Express.js, JSON, Flask, REST API
Databases:	MySQL, MongoDB, Microsoft Access
IDE and other Tools:	Jupyter Notebook, PyCharm, Visual Studio, Eclipse, U-Net, Git, GitHub, Agile, Scrum

PERSONAL PROJECTS

COVID-19 Congestion Mapping – Machine Learning Software Application [project]
Developing an application for COVID-19 congestion mapping. Specifically working on time-series data to build a Machine Learning model for estimation of Ro infection parameter using SIR model. **Tools:** *Python, Jupyter Notebook, SIR model*

Machine Learning for Prediction and Diagnosis of Cardiovascular Diseases – Machine Learning [project]
Designed a system which can predict the risk of Heart Disease based on certain medical tests. Multi-layer Perceptron Neural Networks provided highest accuracy of 86% among various implemented machine learning algorithms. **Tools:** Python, *ML models, Neural Networks*

Handwritten Digit Recognition – Machine Learning and Deep Learning [project]
Performed recognition of handwritten digits on MNIST dataset. Implemented various Machine Learning and Deep Learning methods and achieved 99.70% accuracy with 3-layer CNN using TensorFlow. **Tools:** *Python, Keras, TensorFlow, Scikit-learn, CNN*

Twitter Sentiment Analysis – Natural Language Processing [project]
Implemented an opinion mining to do sentiment analysis of any topic by parsing the tweets fetched from Twitter to classify each tweet as positive or negative using LSTM model with Scikit-learn and Keras. **Tools:** *Python, LSTM, Keras, Scikit-learn, Tweepy, TextBlob*

Tour Company Application – Web Application [project]
Developed a multi-user web application for a fictional tour company that takes it customers on tours. Implemented various modern front-end and server-side web development techniques. **Tools:** *HTML5, CSS3, JavaScript, Node.js, React.js*, *JSON, REST API*

RESEARCH PUBLICATIONS

Machine Learning of Fracture Morphology and Growth in Geological Media: Preliminary Study: CouFrac 2020 (Accepted)
Prediction and Diagnosis of Cardiovascular Diseases using Machine Learning: Published in IJIRT Journal 2019 [paper]
Artificial Intelligence making Driverless Cars Smarter: Presented at IEEE ICKDST Conference and Published in IJCEA 2018 [paper]
Mind Reading Computer Technology: Published in IJSRCSEIT Journal 2017 [paper]

CERTIFICATIONS

- **Applied Machine Learning:** Certified by LinkedIn Learning- LinkedIn
- **Big Data Analytics using Hive in Hadoop:** Certified by Udemy
- **GCP Fundamentals:** Certified by Coursera- Google Cloud
- **AWS ML Fundamentals:** Certified by Coursera-AWS