Pratulya Bubna

Phone: +1 (323) 286-1492
E-mail: pbubna@usc.edu
pratulyab.github.io
linkedin.com/in/pratulya-bubna

EDUCATION

University of Southern California (USC) — Los Angeles, CA
M.S. in Computer Science (3.82/4.00) — *Aug. 2019 — Dec. 2021*
Coursework: Artificial Intelligence, NLP, Algorithms, Operating Systems

Guru Gobind Singh Indraprastha University — Delhi, India
B.Tech. in Information Technology (First Class with Distinction) — *2014 — 2018*

SKILLS

Languages Python, C++, Javascript, Bash, HTML, CSS

Libraries PyTorch, Keras, NumPy, Scikit-learn, OpenCV, Django, Flask, Tornado

Others Docker, UNIX/Linux, Jupyter, Knowledge Graphs

WORK EXPERIENCE (link in title)

Mercedes-Benz Research & Development — Bengaluru, India
Research Intern | Intelligent Interiors (Cars) — *Jun. 2020 — Dec. 2020*
- Researched in deep learning for 3D point clouds and synthetic data generation
- Experimented with 3D tasks — mesh reconstruction, surface normal estimation, part segmentation, 3D object classification

USC Information Sciences Institute — Los Angeles, CA
Graduate Research Assistant | AI Division | Center on Knowledge Graphs — *Oct. 2019 — May 2020*
- Worked with Machine Learning (ML) and GIS tools to develop an unsupervised framework that extracts geographical features (eg. railroads, wetlands) from scanned historical maps and links them over time and space using knowledge graphs.
- Trained UNet, PSPNet, DeepLabV3 (with different backbone networks) to segment the railroad features.
- Denoised the vector data (eg. railroads) from the segmentation masks using cluster analysis as a post-processing step.

Coding Blocks — New Delhi, India
Course Instructor, Mentor — *Jun. 2018 — Jul. 2019*
- Taught hands-on coding lectures on Machine Learning, Deep Learning and Server-Side Programming with Python to **100+** undergrads and working professionals.
- Notable Projects: Image Captioning, GANs, OpenAI Gym, Text Generation with LSTMs, Neural Style Transfer. *[Github]*

Defense Research & Development Organization — Delhi, India
Data Science Research Trainee — *Mar. 2018 — May 2018*
- Implemented a 2017 research paper on using deep Convolutional Recurrent Neural Networks (CRNN) for the task of Language Identification (LID) in Speech Recognition (ASR) systems for native Indian languages. *[PDF]*

RESEARCH

Linking Online News Semantically using NLP and Semantic Web Technologies — *IJCSE, 2018*
P. Bubna, S. Sharma, S.K. Malik — *[PDF], [Github]*
- Proposed an architecture to harness the utility of semantic web technologies in linking and structuring textual data semantically, with the use of NLP, ontologies and graph databases (AllegroGraph).

SELECT PROJECTS (link in title)

Placement Cell Web Portal — *Aug. 2016 — Aug. 2018*
Self-Initiated Project | Team Head | Full-Stack Developer | Server Admin — *[Github]*
- Built a centralized portal to digitize and streamline the placement activities of over **120+ colleges** affiliated to GGSIPU.
- Ported the laborious offline clerical work to the semi-automated online system.
- The portal facilitated interaction among **630+ students** and **30+ recruiters**, for the 2018 career session of my college.