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Tanish Baranwal

SKILLS/ABILITIES/ACHIEVEMENTS

- 10 Years of Python Development, 5 Years of Machine Learning/Tensorflow, C++ experience
- Deep Computer Vision and Imaging, Anomaly Detection, Deep Reinforcement Learning, NLP
- Author of the book "What's New in Tensorflow 2.0", "Tensorflow 2: A recipe book for GANs"
- Papers submitted to Journal of Emerging Investigators, Journal of Student Research
- 5 pending patents in various fields

EXTERNAL PROFILES

- Profile pages: www.tekotan.com, www.linkedin.com/in/tekotan
- Code and blogs: www.github.com/tekotan, www.medium.com/@tekotan

EDUCATION

Dublin High School, Dublin — *Senior*
August 2018 – PRESENT, Dublin
Relevant Coursework: AP Computer Science Applications, AP Statistics, AP Chemistry, Honors
Principles of Engineering, AP Calculus AB, AP Physics C, Honors Digital Electronics

Stanford University — *Part-Time Student*
August 2018 – PRESENT, Stanford
Relevant Coursework: Programming in C++, Applied Matrix Theory, Number Theory, Data Structures,
and Algorithms, Multivariable Calculus, Data Science

Certificates — *Coursera Online*
Deep Learning Specialization, a 5-courses set by deeplearning.ai
Reinforcement Learning Specialization, a 4-courses set by the University of Alberta

EXPERIENCES

Research at Louis Lab, University of California, Santa Barbara — *Student Researcher*
September 2020 – PRESENT

- Worked with assistant professor Matthew Lewis and his PhD students to analyze neurological differences in the locomotion of different species of the drosophila larva.

Aspiring Scholars Directed Research Program — *Senior Researcher*
September 2020 – PRESENT

- Developed a retrosynthesis planning algorithm, screened molecules based on synthetic complexity, and discovered possible molecules that inhibit SARS-COV2 and HIV.
- Determined the efficacy of Clozapine on schizophrenic *C. elegans* worms by analyzing their movement using Deep Learning.

Annual Entrepreneurial Showcase (Paper and Patents Pending) — *Chief Data Scientist*
2019–PRESENT

- Automated Identification Machine: Implemented and modified the ArcFace algorithm to identify students by comparing faces to their ID cards using the CelebFaces dataset
- Intelligent Boiler Controller: Created a deep reinforcement learning algorithm to minimize household energy consumption from water heaters
- Hestia: Created an autonomous drone system dedicated to locate, report, and suppress potential wildfires.

Deep Learning Internship at Outworx — *Data Scientist*
October 2018 – February 2020

- Built an intelligent web navigation agent to traverse the internet given a query goal to QA websites for functionality
- Used Deep learning related anomaly detection strategies to detect the fraud such as autoencoders and upsampling to detect the fraud using past transaction data

OTHER EXTRACURRICULARS

Tri-Valley Animal Rescue, Dublin — *Volunteer* March 2019 – PRESENT
Tri-Valley Youth Expo, Dublin — *Vice President* August 2019 – PRESENT

OTHER ACTIVITIES

- Pleasanton Seahawks and Dublin High School Swimmer
- Blog Writer on Medium with over 10000 views
- California Scholarship Federation, Red Cross, and other school volunteer organizations

AWARDS AND HONORS

- 1st Place Awards at 2020 OHSU Invent-a-Thon, 2020 ACSEF Fair and 2019 and 2020 Dublin High School Entrepreneurship Showcase
- 4th Place Award at Golden Gate Science Fair