Anuj Nagpal

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WORK EXPERIENCE

GOLDMAN SACHS | Analyst
June 2018 – Current | Securities Division, Bengaluru
- Working as quantitative and algorithmic market making developer with area of focus in electronic and automated trading of corporate bonds and credit derivatives.
- Developed and supported applications that enable traders to automatically price credit products based on real time market data, product attributes and manual trader inputs, and stream those prices to clients on electronic trading platforms

GOLDMAN SACHS | Summer Analyst
May 2017 – July 2017 | Securities Division, Bengaluru
- Added support for trading fractional-year tenor single name CDS for a major venue in New York and London.
- Implemented automated scenario tests for e-trading of corporate bonds on a major venue in New York resulting in reduction of manual testing effort before every code release.
- Unification of and making robust FIX protocol message dictionaries used for communication during electronic trade negotiations.

KEY PROJECTS

PROBABILISTIC WORD SENSE EMBEDDINGS
Prof. Piyush Rai | IIT Kanpur | Report
- Worked on probabilistic word vector generation using gaussian mixture model with reduced number of local word specific parameters by using a linear combination of global basis vectors.

DEEP REINFORCEMENT LEARNING AGAINST PONG AI
Prof. Piyush Rai | IIT Kanpur | Report | Video
- Developed a policy gradient network and a double duelling deep Q network that was able to beat computer agent in the Atari Pong game.

GDP FORECASTING USING TIME SERIES MODELLING
Prof. Amit Mitra | IIT Kanpur | Report
- Modelled an ARIMA process on GDP data using R libraries, Holt Winters Seasonal Smoothing, Augmented Dickey-Fuller Test, KPSS Test, Ljung Box Test and AIC/BIC criteria for deciding order.

IMPROVING SECURITY OF ZOOBAR SERVER
Prof. Sandeep Shukla | IIT Kanpur
- Exploited overflow, format string, DoS vulnerabilities and crafted browser based attacks followed by fixing bugs and implementing principle of least privileges by separating various processes.

JAVA TO X86 ASSEMBLY COMPILER
Prof. Amey Karkare | IIT Kanpur | Code
- Implemented a Java to x86 compiler from scratch using python and ply incorporating advanced features like short circuiting, register allocation optimization and classes

EDUCATION

IIT KANPUR
2018 | B. Tech. in Computer Science and Engineering
- Cum. CPI: 9.33 / 10.0
- Academic Excellence Award 2 times - 2016 and 2018

B. M. M. SEN. SEC. SCHOOL
2014 | Mandi Killianwali, Punjab
- AISSCE Class XII (CBSE): 96.2%
- AISSE Class X (CBSE): 10.0/10.0

SKILLS

PROGRAMMING
Python • C/C++ • Java
JavaScript • PHP • SQL • Bash
R • Haskell • Go • HTML/CSS

SOFTWARES / LIBRARIES
TensorFlow • Numpy • scikit-learn
Keras • Pandas • LaTeX • Git • Matlab
IntelliJ • Ruby on Rails • Node.js

COURSEWORK

Probabilistic Machine Learning (A)
Machine Learning Techniques (A)
Applied Stochastic Processes (A)
Time Series Analysis
Computer Systems Security (A*)
Computing Laboratory I (A) and II (A*)
Computer Networks (A)
Compiler Design (A)
Principles of Database Systems
Micro (A), Macro(A) and Monetary (A*) Economics*
(A - Exceptional Performance)*

POSITIONS HELD

- Course Tutor, Fundamentals of Programming (ESC101)
Jan 18 - Apr 18 | IIT Kanpur
- Coordinator, Association of Computing Activities (ACA)
Jul 16 - Jul 17 | IIT Kanpur

ACHIEVEMENTS

- All India Rank 190
JEE Advanced 2014 (formerly IIT JEE)
- All India Rank 220 | State Rank 4
JEE Main 2014 (formerly AIEEE)