Naman Shukla

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Employment History

2019 – current ◇ **Data Scientist,** Deepair Solutions, Dallas, TX

Summers 2018 ◇ **Data Science Research Intern,** SkyEdge Inc, Dallas, TX

Summers 2016 ◇ **Collaborative Researcher,** Ritsumeikan University, Shiga, Japan

Education

2017 – 2019 ◇ **M.Sc. University of Illinois at Urbana - Champaign**
Industrial Engineering with Advanced Analytics concentration – GPA : 4.0/4.0
Thesis title: *Dynamic Pricing for Airline Ancillaries*

2013 – 2017 ◇ **B.Tech. Indian Institute of Technology, Hyderabad**
Chemical Engineering with Entrepreneurship Minor – CGPA : 8.54/10

Research Publications

1. Gupta, A., Marla, L., Sun, R., **Shukla**, **N.**, & Kolbeinsson, A. (2021). Pender: Incorporating shape constraints via penalized derivatives. In *Proceedings of the aaai conference on artificial intelligence* (Vol. 35, pp. 11536–11544).

2. Kolbeinsson, A., **Shukla**, **N.**, Gupta, A., Marla, L., & Yellepeddi, K. (2021). Galactic air improves airline ancillary revenues with dynamic personalized pricing. *SSRN Electronic Journal*.
doi:10.2139/ssrn.3836941

3. **Shukla**, **N.**, Kolbeinsson, A., Marla, L., & Yellepeddi, K. (2020). From average customer to individual traveler: A field experiment in airline ancillary pricing. *Available at SSRN 3518854*.

4. Gupta, A., **Shukla**, **N.**, Marla, L., Kolbeinsson, A., & Yellepeddi, K. (2019). How to incorporate monotonicity in deep networks while preserving flexibility? *arXiv preprint arXiv:1909.10662*.

5. **Shukla**, **N.** (2019). *Dynamic pricing for airline ancillaries* (MSc thesis, Industrial and Enterprise Systems Engineering , University of Illinois at Urbana-Champaign, IL). Retrieved from
hdl.handle.net/2142/105086

6. **Shukla**, **N.**, Kolbeinsson, A., Marla, L., & Yellepeddi, K. (2019). Adaptive model selection framework: An application to airline pricing. *arXiv preprint arXiv:1905.08874*.

7. **Shukla**, **N.**, Kolbeinsson, A., Otwell, K., Marla, L., & Yellepeddi, K. (2019). Dynamic pricing for airline ancillaries with customer context. In *Proceedings of the 25th acm sigkdd international conference on knowledge discovery & data mining* (pp. 2174–2182).

Projects

Industry

2021 ◇ **deeppricing© for loyalty exchange rates**, Dynamic pricing solution for pricing exchange rates for reward points. Currently this project is in minimum viable product stage.
Role: *Project lead*

Projects (continued)

2020 ◇ **deepair–fluent**, Deepair Solutions' internal framework for orchestrating life cycle of pricing agents. Currently powering all pricing agents deployed by Deepair Solutions.
Role: *Maintainer & co-creator*

◇ **flai**, A toolkit for developing and comparing reinforcement learning algorithms. Created with Imperial College London and University of Illinois at Urbana-Champaign.
Role: *Developer & co-creator*

◇ **deepair-arena©**, Unified framework performance evaluation of pricing agents at deepair solution.
Role: *Maintainer*

2019 ◇ **deeppricing© for Ancillaries**, Dynamic pricing solution for pricing ancillaries in airline industry. Currently providing solutions to major airlines in Europe and Asia.
Role: *Algorithm designer & data scientist*

Academic

◇ **Flappy Bird Hack using Deep Reinforcement Learning with Double Q-learning**. Implemented Double Deep Q-learning Algorithm on *Flappy Bird* android game.

2018 ◇ **Cycle Generative Adversarial Neural Network**. Implemented cycle consistent image to image translation with Generative Adversarial Networks. Used University of Illinois – National Center for Supercomputing Application's Blue Waters K80 GPU dedicated cluster for training neural network.

2017 ◇ **Hand Written Image Recognition of USPS Dataset**. Implemented classification by training linear and kernel support vector machine with features produced by kernel principal component analysis. Extracted features on 7K images from USPS dataset.

2015 ◇ **Graphical User Interface Optimization Toolbox**. Created a platform independent toolbox for model identification in biochemical reaction. Used algorithms for parameter estimation : generic algorithm, particle swarm optimization, bat algorithm.

Awards and Achievements

2019 ◇ **SIGKDD Startup Award**. Awarded by 25th ACM SIGKDD International Conference on Knowledge discovery and data mining (KDD).

◇ **AGIFORS Best Presentation Award**. Awarded by the Airline Group of the International Federation of Operational Research Societies.

◇ **ISE Academic Travel Grant**. Awarded by the Industrial and Enterprise Systems Engineering department of University of Illinois at Urbana-Champaign.

2016 ◇ **JASSO Scholarship**. Awarded by government of Japan to participate in University of Tokyo's design and innovation program.

2015 ◇ **Excellence in Academics**. Awarded by Indian Institute of Technology, Hyderabad.

Skills

Languages	◇ Python, C/C++, Java, R, MATLAB, FORTRAN, SQL
Tools	◇ Docker, kubernetes, Airflow, Kubeflow
Frameworks	◇ Tensrflow, Pytorch, Keras, REST, gRPC
Stack	◇ MongoDB, Redis, Cassandra, Postgres, React