Aayam K. Shrestha

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Statement

Hoping to play my part on not just solving intelligence, but more importantly ensuring that its intent aligns with ours. Believer of a digitopia and a spiritual seeker. *Current Research:* Deep Grounding of AI planners, Bridging the gap between symbolic planners and data-driven learners.

Research Interests: Deep Reinforcement Learning, Knowledge Graphs.

Education

- **Oregon State University** — Corvallis, OR
  PhD. in Computer Science; GPA: 3.85/4.0 — *Sept. 2018 – Sept 2023 [Expected]*
- **Kathmandu Engineering College, Tribhuvan University** — Kathmandu, Nepal
  Bachelors in Computer Engineering; GPA: 4.0/4.0 (Valedictorian) — *Aug. 2012 – Apr. 2016*

Experience

- **Oregon State University** — Corvallis, OR
  Graduate Research Assistant — Advisor : Prof. Alan Fern — *Sept. 2018 - Present*
  - **Research**: Deep Reinforcement Learning and Symbolic Reasoning/Planning.
  - **Project**: Part of the OSUs team for DARPA Machine Common Sense Project.

  IDEA Lab - Team member — Advisor : Prof. Arash Termehchy — *June 2018 - Feb. 2019*
  - **Research**: Working in the intersection of knowledge graphs and Machine Learning.
- **Logic Information Systems.** — Blommington, MN
  Business Intelligence Engineer — *May 2016 - Aug. 2018*
  - **Project**: Develop and maintain large-scale enterprise Data Warehousing and Business Intelligence solutions
  - **BI Consulting**: Off-shore consulting for clients Alex & Ani, Holland and Barett, Gander Mountain, and Makro.
  - **Research**: Customer Experience Analytics over in-house data lake. *Data Sources:* customer call audio, text reviews and curated twitter feeds.

Skills and Tools

- **Languages**: Python, C#, R.
- **Frameworks and Libraries:** Pytorch, Tensorflow, Pandas, Wandb, SKlearn, Hadoop, Spark, ASP.NET, GraphQL
- **Databases:** MySQL, MsSQL, OraclePL/SQL, Netezza, Teradata, Cypher-Neo4J
- **Default Stack:** Numpy, Pytorch, SKlearn, Pandas, Wandb

Publications

1. **Aayam Shrestha**, Stefan Lee, Prasad Tadepalli and Alan Fern. "DeepAveragers: Offline Reinforcement Learning by Solving Derived Non-Parametric MDPs". Under Review, *ICLR 2021.* (pdf)
2. **Aayam Shrestha**, Stefan Lee, Prasad Tadepalli and Alan Fern. "DeepAveragers: Offline Reinforcement Learning by Solving Derived Non-Parametric MDPs". Offline Reinforcement Learning Workshop, *NeurIPS 2020* **(Oral)**. (pdf)
3. Yodsawalai Chodpathumwan, **Aayam Shrestha**, Stephen Ramsey, Arash Termehchy. "Structurally Robust Similarity Search". Under Review, *SIGMOD 2021.* (pdf)

Projects

- **DAC-MDPs**: Deriving non parametric MDPs for Offline Reinforcement learning and zero-shot transfer learning. (2020)
- **BigMDP**: Library for creating and solving large MDPs with million of states. GPU optimized VI solver. (2019)
- **Semi Supervised Mars Imageset Classification** : Using k-means clustering over discrete learned features.(2019)
- **Obj2Obj GAN** : Masked Image to Image translation using GANs for object inpainting. (2018)
- **Bias in Knowledge Graphs** : Identifying bias of ML algorithms for different information preserving variations (2018)
- **Vehicle Traffic Prediction**: For optimizing traffic flow using RNNs on real world dataset. (2017)
- **Gurukul**: Integrating analytics and data-driven recommendations for College ERP (2015)