

Behzad Shayegh

Montréal, Canada |  [Behzad Shayegh](#) |  the.shayegh@gmail.com |  [TheShayegh](#) |  [TheShayegh.github.io](#)

EDUCATION

M.Sc. in Computer Science at University of Alberta Sep. 2022 – Aug. 2025
Thesis: Ensemble methods for unsupervised syntactic parsing; GPA: 4.0/4.0

B.Sc. in Computer Engineering at University of Tehran Sep. 2017 – Jul. 2022
Thesis: [Geolocating addresses from informal Persian texts using hierarchical kernel-based bayesian models](#)

WORK EXPERIENCE

Machine Learning Research Intern at RBC Borealis Sep. 2025 – Dec. 2025

- Working on uncertainty in LLMs (details are confidential for now).

Student Researcher at Google Apr. 2025 – Jun. 2025

- Uncovered and quantified adequacy-over-fluency bias in translation evaluation and meta-evaluation.
- Balanced translation meta-evaluation by synthesizing pseudo translation systems.
- Designed adequacy–fluency tradeoff analysis protocols applied across five language pairs.
- Developed AdequacyX and FluencyX as specialized MetricX variants for adequacy and fluency evaluation, achieving ~80% soft pairwise accuracy on their respective objectives.

Mitacs Research Intern at RBC Borealis Sep. 2023 – Aug. 2024

- Designed and implemented dynamic programming (DP) algorithms to efficiently aggregate parse structures.
- Improved BLEU score by 1 point in zero-shot machine translation for 62 language pairs: Designed bi-level beam search to synchronize beams of different generative models during generation.
- Mitigated the over-smoothing issue in multi-teacher knowledge distillation for syntactic parsing and machine translation by proposing ensemble distillation.
- Mentored a bachelor student from project launch to AAAI co-authorship.

Data Scientist (R&D) at Divar (the most popular Iranian classified ads platform) Feb. 2022 – Jul. 2022

- At Divar, with 53M annual users and 140M annual ads, trained a car-price estimator with 1M data samples.
- Reduced car-price estimation uncertainty by 40%: Implemented quantile regression using Scikit-learn.
- Satisfied the domain experts: Proposed a novel evaluation metric for interval prediction that incorporates interval length as a proxy for uncertainty, normalized by the real-world standard deviation of comparable data.
- Improved MAPE by 4%: Identified and leveraged previously unrecognized and unaccounted categorical features using Gaussian Mixture Models and goodness-of-fit tests.
- Curated a high-quality 1M-sample training dataset using Spark: Detected outliers and interpolated missing entries.

Research Intern at Ashianeh-Sepehr-Kherad (business consulting and services) Jun. 2019 – Jun. 2021

- Achieved 81% accuracy in geolocating addresses from informal text: Designed a hierarchical kernel-based Bayesian model in NLTK to tackle a large-scale classification problem (850K classes) using a small training dataset (700K samples)
- Built a 700K-sample dataset for address geolocation: Weighted data to match the population distribution of the city.
- Improved geolocation accuracy by 4% and runtime efficiency by 82x: Developed an unsupervised statistical preprocessing model that reduced token variety from 85K to 11K.
- Engineered 400+ features for real-estate price estimation: Developed a feature-extraction pipeline using OpenStreetMap, PostgreSQL, QGIS, Python, and C++; Curated a 1M-sample training dataset accordingly.

PUBLICATIONS

[5] **Shayegh**, Peter, Vilar, Domhan, Juraska, Freitag, Mou. [Feeding two birds or favoring one? Adequacy–fluency tradeoffs in evaluation and meta-evaluation of machine translation](#). WMT’25

[4] **Shayegh**, Li, Zhu, Cheung, Mou. [Error diversity matters: An error-resistant ensemble method for unsupervised dependency parsing](#). AAAI’25

[3] Wen, **Shayegh**, Huang, Cao, Mou. [An ensemble with bi-level beam search for zero-shot machine translation](#). AAAI’25

[2] **Shayegh**, Wen, Mou. [Tree-averaging algorithms for ensemble-based unsupervised discontinuous constituency parsing](#). ACL’24 

[1] **Shayegh**, Cao, Zhu, Cheung, Mou. [Ensemble distillation for unsupervised constituency parsing](#). ICLR’24

REFERENCES

David Vilar (vilar@google.com) and Jan-Thorsten Peter (jtp@google.com) from my experience at Google.