DAYI LIN Ph.D., Senior Researcher and Data Scientist

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SUMMARY

➢ Experienced in mining large-scale heterogeneous data to **uncover patterns, insights and trends** across education, software, gaming, and automotive industries

➢ Proven effectiveness in both industry and academia (31k+ reads on ResearchGate), collaborating internationally, publishing in top-tier journals, receiving prestigious **media coverage** including **Kotaku**, **PC Gamers**, **Gamasutra**, and national newspapers

WORK EXPERIENCE

Senior Researcher at **Huawei Canada Research Institute**   Oct. 2020 – Present

#Software Engineering for Machine Learning Systems

➢ Conduct research on software engineering theories and practices for developing and maintaining artificial intelligence systems

➢ Maintain collaboration with internal product teams and external research partners

Data Scientist at **Prodigy Game**   Feb. 2019 – Oct. 2020

#Statistical Modelling #Machine Learning #Spark #Python #R

➢ Conducted research on player behavior modelling; modelled complex in-game user behavior at both user and session levels, with data from 90+ million users who generate 300+ million events per day

➢ Conducted research on player segmentation; profiled players based on their in-game behavior to empower personalized gaming experiences; identified an opportunity to lift membership conversion on a major segment of users by 2 to 3 times

➢ Modelled users' usage pattern of key features and their compound impact on core game metrics (e.g., user retention); provided in-depth data-driven insights and predictions that power product iterations

➢ Collaborated with product team and user research team to design, conduct and analyze in-game experiments for new features

Data Researcher at **BlackBerry** and **Ford Motor**   Jan. 2017 – Apr. 2017

#Algorithm Design #Data Mining #Data Visualization #Kafka #Python #R

➢ Designed Markov Chain-based algorithms, in combination with binary classifiers to identify orphaned or wrongly recognized voice commands, and mistakes in user behaviors (e.g., misclicks)

➢ Analyzed user behavioral data from infotainment systems in Ford vehicles to provide feedback to design and development teams, improving the user-perceived quality of the system

SELECTED PUBLICATIONS

Selected Peer-Reviewed Journal Publications (Impact Factors in brackets)

- Lee D, Rajbahadur GK, **Lin D**, et al. "An Empirical Study of the Characteristics of Popular Minecraft Mods". *Empirical Software Engineering* (4.457), 2020.
- Lee D, **Lin D**, Bezemer CP, Hassan AE, "Building the Perfect Game – An Empirical Study of Game Modifications", *Empirical Software Engineering* (4.457), 2019.
- **Lin D**, Bezemer CP, Hassan AE, "Identifying gameplay videos that exhibit bugs in computer games", *Empirical Software Engineering* (4.457), 2019.
- **Lin D**, Bezemer CP, Zou Y, Hassan AE, "An empirical study of game reviews on the Steam platform", *Empirical Software Engineering* (4.457), 2018.
- **Lin D**, Bezemer CP, Hassan AE, "An empirical study of early access games on the Steam platform", *Empirical Software Engineering* (4.457), 2017.
- **Lin D**, Bezemer CP, Hassan AE, "Studying the urgent updates of popular games on the Steam platform", *Empirical Software Engineering* (4.457), 2016.

EDUCATION

Ph.D. in Computer Science, Queen's University   Sept. 2015 – Jan. 2019

#Software Analysis and Intelligence Lab (GPA 4.2/4.3)   #Ultra-Large Software System Specification

- Uncovered patterns in the game stores data using **Natural Language Processing** and **Machine Learning** to provide practical suggestions to game developers, thereby helping them produce higher quality games and improve user satisfaction
- Built an intelligent tool to automatically identify game bugs from gameplay videos, with a median average precision at 10 of 0.91
- Additionally, improved the interpretation and goodness-of-fit by 100% for the just-in-time cross-project defect models using context-aware mixed-effect modelling

TECHNICAL SKILLS

- **Domains:** Data Mining | Machine Learning | Software Engineering | Game Engineering | Defect Prediction
- **Skills:** Supervised & Unsupervised Learning | Computational Data Analysis | Predictive & Explanatory Modelling | Natural Language Processing | Data Engineering | Data Visualization
- **Languages:** Python | R | Java | C/C++ | PHP | SQL
- **Tools:** Kafka | Spark | GraphX | D3.js | *nix | Git/SVN

SELECTED AWARDS

- Feb. 2018   Winner and Avanade Sponsored Prize, QHacks 2018
- Sept. 2017   Queen's Graduate Award, Queen's University
- Sept. 2016   Winner, Limestone City Hacks 2016
- Jun. 2015   Outstanding Graduates, XUPT