Quang N. Vu

1-year+ experience in **Data Science** | 3-year+ experience in **Software Engineering**

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EDUCATION

University of Alberta   **Edmonton, Canada**

Master of Science (Thesis) in Software Engineering and Intelligent Systems   *Sep 2019 – Sep 2020*

- **GPA** 4.0/4.0. **Graduated one year earlier** than the normal duration.
- Relevant courses (grade): Data Analytics in Software Engineering (A+), Software Construction & Verification (A).
- **Authored** 2 research papers (1 published, 1 in review) on mining digital distribution platforms.

National University of Singapore (NUS)   **Singapore**

Bachelor of Engineering (Honours) in Computer Engineering   *Aug 2012 – Jun 2016*

- **GPA** 4.27/5.0.
- Awards: **ASEAN Undergraduate Scholarship** (2012 - 2016): awarded to outstanding students from ASEAN countries. **Deans' List for Academic year 2012/13** in recognition of academic excellence and being in the top 5% of the cohort. **Adler Foundation scholarship**: awarded by the exchange university, Chalmers University of Technology (Jan 2015 - Jun 2015).

SKILLS

- Proficient in: Java, Python, R, Bash, Shell scripting, Spring framework, SQL, HTML/CSS, D3.js. Familiar with C/C++, JavaScript, Rust.
- Proficient with DevOps CI/CD tools such as: TeamCity, UrbanCode Deploy, SonarQube, Artifactory, OpenShift, Docker, Google Cloud.
- Data mining techniques: web crawling (Scrapy), features engineering, visualisation (ggplot, matplotlib), machine learning (scikit-learn).

PUBLICATIONS

- **Quang N. Vu**, Cor-Paul Bezemer, "An Empirical Study of the Characteristics of Popular Game Jams and Their High-ranking Submissions on itch.io," in *International Conference on the Foundations of Digital Games (FDG)*, 2020. Preprint: here
- **Quang N. Vu**, Cor-Paul Bezemer, "Improving the Discoverability of Indie Games by Leveraging their Similarity to Top-Selling Games," in *International Conference on Software Engineering (ICSE)*, 2021 (in review).

PROFESSIONAL EXPERIENCE

Analytics of Software GAmes And Repository Data (ASGAARD) lab   **Edmonton, Canada**

Graduate Research Assistant   *Sep 2019 – Present*

- **Developed** several web crawlers in Python for mining software repositories (Using Scrapy).
- **Performed** statistical analysis using several data mining techniques (data cleaning, feature selection, machine learning modelling, visualization). Tech: R, Python, SQL, pandas, numpy.
- **Developed** natural language processing pipelines for topic modelling (using Latent Dirichlet Allocation) and content-based recommendation system (using Rapid Automatic Keyword Extraction (RAKE) algorithm). Tech: R, Python, SQL, pandas.

Citigroup   **Singapore**

Software Developer   *Jul 2016 – Jul 2019*

- **Built** a full-fledged DevOps chain to automate CI/CD process from testing, code analysis, integration, deployment and artefact storage with enterprise tools such as TeamCity, UrbanCodeDeploy, SonarQube, Artifactory. This effort has achieved Single-Click deployment and reduced manual tasks significantly, thereby supporting Agile development.
- **Developed and Containerized** several RESTful Java microservices (with Spring framework) into Docker images and deployed on OpenShift platform. **Wrote** unit tests (JUnit) which cover at least 98% of the codes.
- **Automated** the periodic querying and sending business data to users, purging database, etc. using Shell scripts.
- **Revamped** a monolithic web application into several web-fragment microservice modules to support the plugability of components for easy deployment or removal.

Holmusk   **Singapore**

Software Engineer Intern   *Jul 2015 – Aug 2015, Dec 2015 – Jan 2016*

- **Developed** a Scrapy crawler to scrape millions of user data records (e.g., workouts, meals, goals, profiles) from Fitbit and Jawbone fitness tracker. This dataset was used as training data for the company's machine learning algorithm. Tech: Python, Scrapy.
- **Developed** a GUI single-page web application designed for diabetes patients to track their meals. Tech: D3.js, Javascript, AngularJS.

SELECTED PROJECTS

Game recommendation for indie games   **2020**
- **Developed** a content-based recommendation approach to help increase the discoverability of indie games. The approach uses various natural language processing techniques (stemming, lemmatization, keyword extraction). <u>Tech used</u>: Python, D3.js, SQL.
  Available at: *https://itch-steam-webpage.herokuapp.com*

What are hackathon participants talking about?   **2020**
- **Developed** a web crawler to retrieve text descriptions written by hackathon participants from thousands of hackathons to create a large corpus of text data. <u>Tech used</u>: Python, SQL.
- **Implemented** a topic modelling approach using Latent Dirichlet Allocation (LDA) and several natural language processing techniques to identify the challenges, lessons learned, and future goals described by the participants.
  Code repo: *https://github.com/hydradon/devpost_hackathons-LDA*

Empirical study on itch.io games and game jams   **2019**
- **Developed** several Scrapy web crawlers to retrieve game data on itch.io, a digital distribution platform for indie games. <u>Tech used</u>: Python, R.
- **Analyzed** data using data mining techniques (cleaning, feature selection, statistical modelling) for insightful findings to make suggestions for future new game developers on how to achieve high-ranking games in game jam competitions.

EXTRACURRICULAR ACTIVITIES

NUS Karate Club   **Singapore**
Welfare Director   *Aug 2013 – Aug 2015*
- **Advised** and assisted the Chairperson in organizing welfare activities such as event celebrations, gatherings and the Annual Karate camp. Oversaw the well-being and safety of NUS Karate Club members.
- **Collaborated** with other martial arts clubs to organize Martial Arts Day NUS event to raise NUS students' awareness of the clubs, resulting in a significant increase in new joiners for each club as compared to previous years.

Overseas Community Involvement Project (OCIP)   **Vientiane, Laos**
Planning committee   *Aug 2012 - Jun 2013*
- **Planned** fund-raising activities such as selling merchandise and collecting old newspapers.
- **Designed** game activities for Laotian children to aid them in English language learning.