# THANH H. NGUYEN

**Ph.D Candidate - Computer Science Department - New Mexico State University**

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## EXPERIENCE

### Graduate Assistant (Software Engineer)

**USAD LandPKS Project**

2014 – Present  New Mexico ,U.S.A

- Develop Data Analytic System and Prediction Model, which are based on Machine Learning techniques to get as much knowledge as possible from soil, weather, climate, and water data to build models for analyzing soil potential. Main website: http://landpotential.org/
- Develop Data Portal that analyses and displays data. Link: https://portal.landpotential.org
- Develop Big-Data processing module (Hadoop) to create accessible climate data and soil profiles for all locations in the world.
- Develop LandPKS API – a back-end API system allows clients (web portal, mobile apps, etc.) connecting and accessing to LandPKS core-data (LandInfo, LandCover, etc). This system is hosted in Google Cloud Platform.

### Research Assistant (Software Engineer)

**Phylotastic Project**

2014 – Present  New Mexico ,U.S.A

- Develop Mobile Application Phylotastic that allows generating phylogenetic tree based on Phylotastic web services in Android and iOS.
- Work to develop and extend Phylotastic web services. Main web-site: http://phylotastic.org
- Implement the Semantic Integration and an Automatic Web Service Composition framework (Semantics Web) – that are based on Artificial Intelligence Planning research and Machine Learning algorithms to create, manipulate and evolve Phylogenetic Biology Workflows.

### Student Employment

**Electrical Engineering department - NMSU**

2014 – 2015  New Mexico, U.S.A

- Design and develop navigation and object detection features for Robot.

### Senior Software Engineer & Deputy Director of Research and Development department

**VIVAS Ltd Co., – a member of Vietnam Post & Telecommunication Group (VNPT)**

2011 – 2013  Hanoi, Vietnam

- Design and develop Multiple-Screens Video Streaming Platform.
- Develop Streaming Videos Mobile Application for both Android, iOS and Web

## PERSONAL STATEMENT

- I am a PhD candidate in the Computer Science Department at New Mexico State University. During my degree, I have been working as a software engineer for LandPKS project and Phylotastic since 2014, in which I applied Machine Learning and Artificial Intelligence methodologies. I graduated with my Masters of Computer Science at James Cook University in Australia.
- My primary research now focuses on Automation Web Services Composition in Semantics Web.
- I am extremely knowledgeable with eleven years of industry experience in software development. I possess a wide skill-set including both back-end and front-end development. I also have strong abilities in problem solving and critical thinking.

## RESEARCH INTERESTS

My research interests include:

- Knowledge Representation and Reasoning (Argumentation, Logic Programming, Answer Set Programming, Non-monotonic Reasoning), Reasoning about Actions and Changes, Planning, Scheduling, Autonomous Agents, Robotics, Inductive Logic Programming, Web Services Composition & Semantics Web.
- Machine Learning and Collective Intelligence: recommendation system, discovering groups, searching and ranking, collaborative filtering, document filtering, generative modeling, advanced classification, regression.
- Big Data Processing: Map-Reduce Framework.

## EDUCATION

### Ph.D. candidate

**New Mexico State University**

Aug 2013 – current  U.S.A

### M.Sc. in Computer Science

**James Cook University**

2009 – 2011  Australia

### B.Sc. in Information Technology

**Hanoi University of Science and Technology**

2003 – 2008  Hanoi, Vietnam

- Design and Develop CDN (Content Delivery Network) & CMS (Content Management System) systems.
- Manage Research and Development department in technical area.
- Research to apply new technologies for current projects.

### Senior Java Developer

**FPT Company**

2008 - 2009 Hanoi, Vietnam

- WTCS_TT project: develop a system enabling banks to directly collect tax from taxpayers
- PIT project: develop a system to manage and collect personal income tax of Vietnam Tax department

## PUBLICATIONS

- Thanh Hai Nguyen, Tran Cao Son, Enrico Pontelli. Phylotastic: **Web Services Composition and Repair**. IJCAI 2019 28th International Joint Conference on Artificial Intelligence. **IJCAI2019 - Macao, China**. *Pending*.
- Thanh Hai Nguyen, Tran Cao Son, Enrico Pontelli. Phylotastic: **An Experiment in Creating, Manipulating, and Evolving Phylogenetic Biology Workflows Using Logic Programming**. ICLP 2018 34th International Conference on Logic Programming. **ICLP 2018 - Oxford, UK**. *CS Conference Full-Paper*.
- Thanh Hai Nguyen, Tran Cao Son, Enrico Pontelli. Phylotastic: **An Experiment in Creating, Manipulating, and Evolving Phylogenetic Biology Workflows Using Logic Programming**. TPLP Theory and Practice of Logic Programming Journal. *Journal Research*.
- Thanh Hai Nguyen, Tran Cao Son, Enrico Pontelli. **Automatic Web Services Composition for Phylotastic**: PADL 2018 20th International Symposium on Practical Aspects of Declarative Languages. **ACM Springer – Los Angeles, USA**. *CS Conference Full-Paper*
- Thanh H Nguyen, Van D. Nguyen, Abu Saleh Md. Tayeen, H. Dail Laughinghouse IV, Luna L.SanchezReyes, Enrico Pontelli, Dmitry Mozzherin, Brian O'Meara, Arlin Stoltzfus. **Phylotastic: Improving access to tree-of-life knowledge with flexible, on-the-fly delivery of trees**. Methods in Ecology and Evolution 2018. *Journal Research in Applied Science*.
- Joshua Beniston, Adam Beh, Thanh Nguyen, Lilian Ndungu, Jason Karl, Jeffrey Herrick. **The Land Potential Knowledge System: Generating site-specific estimates of land potential productivity and degradation risk using a mobile application and cloud computing**. 2015 AgMIP 5th Global Workshop. *Applied Science Workshop paper*.

## REFEREES

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