

Noppadon Khiripet, Ph.D.

- Affiliation** National Electronics and Computer Technology Center (NECTEC)
National Science and Technology Development Agency,
Patumthani, Thailand
- Current Position** Principal Researcher
Head of Knowledge Elicitation and Archiving (KEA) Research Team
Data Science and Analytics Research Group
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Email: noppadon.khiripet@nectec.or.th
- Education** **Ph.D.** in Electrical and Computer Engineering,
Georgia Institute of Technology, Atlanta, GA, USA, 2001
Dissertation title: *Architecture for Intelligent Time Series Prediction with Causal Information*
Dissertation Advisor: Prof. George Vachtsevanos
- Research Interest** Digital Agriculture, Geospatial Analytics, Data Mining, Graph Mining,
Machine Learning, Statistical Learning

Research Experience

Oct 2001-Present National Electronics and Computer Technology Center (NECTEC)
Research Engineer

Initiate, lead and participate in the following projects

- Cognitive Climate Smart Agriculture for Sugarcane: Artificial intelligence and remote sensing technology for sugarcane yield prediction (2019-present) *Project Leader*
- Agri-Map Online & Mobile: Thailand Agricultural Map for Adaptive Management (2016-present)- Optimization modeling and application development *Project Leader*
- What2Grow: Farmland Optimization (2015-present)- Mathematical and spatial optimization modeling *Project Leader*
- Big Data Analytics for Agricultural Zoning Map (2013 -2015)- Project Leader
- A Forecasting Model of Brown Plant Hopper Migration using Outbreak Data Sets (2013 -2015)- *Project Leader*
- Data Integration Architecture for Prediction of Pest and Disease Epidemics in Mulberry (2013 -2015)- *Project Leader*
- Efficient Detection of Crime Activities via Isomorphic Subgraph Matching (2011 -2013)- *Project Leader*
- Knowledge-Base Development of Eucalyptus Grafting Welfare (2011-2012)- *Project Leader*
- Eucalyptus Plant-Site Matching (2010-2011)- *Project Leader*
- Isomorphic Substructure Discovery and Analysis for Graph Mining Applications (2008-2010)- *Project Leader*

- Research and Development of Methods for Polygenic Disease Gene Discovery (2004-2007) – *Project Leader*
- In silico Searching of Drug Targets in Bacterial Genomes by Comparative Genomics (2001-2003)

May - Oct 2001 Georgia Institute of Technology, Atlanta, GA

Research Engineer

- Design and develop solutions for the prognostic enhancements to the diagnosis of US Navy chiller systems, a 3-year project supported by the Office of Naval Research, USA.

Sep 1996 - May 2001 Georgia Institute of Technology, Atlanta, GA

Graduate Research Assistant

- Develop an overall prediction methodology for a technology impact forecasting project, supported by the Aerospace Systems Design Laboratory, School of Aerospace Engineering, Georgia Institute of Technology. (1998-2001)
- Inspect encryption mechanism (both hardware and software) to find security flaws of the next generation vending machine, which employs a radio frequency (RF) transponder to transmit data to and from the machine. The project was supported by the Coca-Cola company, Atlanta, GA. (1998-1999)
- Extract relevant features from electroencephalogram (EEG) signals in order to predict seizure onset time. The project was supported by the Emory University Hospital, Atlanta, GA. (1997-1998)
- Develop a voice recognition system for a medical data-entry application using IBM ViaVoice SDK. The project was supported by the South Fulton Hospital, Atlanta, GA. (1996-1997)

International Publications (selected)

K. Das, P. Chattanrassamee, N. Khiripet, “Crop Evapotranspiration Estimates for Sugarcane Based on Remote Sensing and Land Surface Model in Thailand”, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), 2020

R. B. Guruprasad, K. Dasgupta, P. Chattanrassamee, N. Khiripet, “Yield and Commercial Cane Sugar Estimateion for Sugarcane in Thailand – A Case Study”, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), 2020

J.R. Jungck, R. Wagner, D.V. Loo, B. Grossman, N. Khiripet, J. Khiripet, W. Khantuwan, M. Hagan, Art Forms in Nature: radiolarian from Haeckel and Blaschka to 3D nanotomography, quantitative image analysis, evolution, and contemporary art, *Theory in Bioscience* 138(1):159-187 (2019) **Impact Factor 1.552**

N. Khiripet, W. Khantuwan, J. R. Jungck, “Ka-me: a Voronoi image analyzer”. *Bioinformatics* 28(13): 1802-1804 (2012) **Impact Factor 5.468**

N. Khiripet, R. Viruchpintu, J. Maneewattanapluk, J. Spangenberg, J.R. Jungck, “Morphospace: Measurement, Modeling, Mathematics, and Meaning”, *Mathematical Modelling of Natural Phenomena* 6(2):54-81, (2011) **Impact Factor 0.633**

J. R. Jungck, S. S. Donovan, A. E. Weisstein, N. Khiripet, S. J. Everse: "Bioinformatics education dissemination with an evolutionary problem solving perspective". *Briefings in Bioinformatics* 11(6):570-581 (2010) **Impact Factor 5.298**

J.R. Jungck, N. Khiripet, R. Viruchpintu, J. Khiripet, "Evolutionary Bioinformatics: Making Meaning of Microbes, Molecules, and Maps", *Microbe* 1(8):365-371 (2006) **Impact Factor 5.311**

W. Rungsarityotin, N. Khiripet, C. Tanprasert, R. Chitradon, "Grid Computing and Bioinformatics Development: A case study on the *Oryza Sativa* (rice) Genome", *Pure and Applied Chemistry* 74(6):891-897 (2002) **Impact Factor 3.386**

Patents (selected)

T. Wongtawee, S. Prapanitisatien, N. Khiripet, Decision tree method and system for map visualization in geographical information system, Filing no. 1801006032, 28/09/2018

K. Sa-adaem, N. Khiripet, J. Khiripet, R. Sanamon, Device and method for GIS data processing for alternative crop recommendation, Filing no. 1801005689, 20/09/2018

N. Ouiwiwat, N. Khiripet, Method and apparatus for core community detection in social network, Filing no. 1801004736, 10/08/2018

N. Ouiwiwat, N. Khiripet, T. Boonchuaychu, System and methods for geographical hierarchical data preparation and imputing, Filing no. 1801002790, 11/05/2018

J. Khiripet, N. Khiripet, Methods and system for product promotion by transaction graph analysis, Filing no. 1801001451, 09/03/2018

J. Khiripet, N. Khiripet, Method and apparatus for mulberry pest and disease warning, Filing no. 1701005322, 15/09/2017

W. Khantuwan, N. Khiripet, Method and system for generating brown planthopper migration map, Filing no. 1601003248, 28/09/2016

W. Khantuwan, N. Khiripet, Apparatus and data processing methods for agricultural zoning, Filing no. 1501003960, 10/04/2015

J. Khiripet, N. Khiripet, Multi-criteria decision analysis and system for patient food recipe recommendation, Filing No. 1401007872, 29/12/2014

J. Khiripet, N. Khiripet, R. Kantong, Device for ingredients recommendation with graph relationship to food recipes, Filing no. 1401006976, 21/11/2014

C. Kowerawong, N. Khiripet, Methods for efficiently visualizing and interpreting raster data on geographical system, Filing no. 1401005706, 26/09/2014

W. Khantuwan, W. Tantisiroj, N. Khiripet, Methods and apparatus for visualization event and human behaviors, Filing no. 1401005898, 30/09/2014

W. Tantisiroj, N. Khiripet, Method and Apparatus for Approximate Name Searching, Filling No. 1301005564, 30/9/2013

J. Khiripet, N. Khiripet, Method and Apparatus for Evaluating and Producing Foods, Filling No. 1301005565, 30/9/2013

W. Limprasert, N. Khiripet, Method for Visualizing Events, Filling No. 1301005566, 30/9/2013

R. Khantong, N. Khiripet, Method and Apparatus for Spatio-Temporal Constructing Flow and Display Crime Information, Filling No. 1301005568, 30/9/2013

W. Khantuwan, N. Khiripet, Method and Apparatus for Flood Controlling in Large Area, Filling No. 1301005403, 26/9/2013

W. Khantuwan, N. Khiripet, Method for Efficient Discovering Terrorist Cooperative Network, Filling No. 1301005559, 30/9/2013

J. Khiripet, N. Khiripet, Method and Apparatus for Recommending Food Recipes Using Graph Mining, Filling No. 1201004041, 9/8/2012

W. Khantuwan, N. Khiripet, Method and Device for Accelerating Object Matching with Co-occurrence Histogram on GPU, Filling No. 1201004164, 17/8/2012

T. Intharah, N. Khiripet, Method for Automatic Segmentation of Actors from Thai Mural, Filling No. 1201002440, 25/5/2012

W. Khantuwan, N. Khiripet, Method for Live Shrimp Counting, Filling No. 1101002165, 22/9/2011

W. Buranasing, N. Khiripet, Method and Device for Actor Identification, Filling No. 1101002388, 30/9/2011

N. Khiripet, J. Khiripet, Method for Plant-Specific Site Classification, Filling No. 1001001003, 28/12/2011

N. Khiripet, J. Khiripet, Method for Plant Product Prediction with Site Characteristics, Filling No. 1001001005, 5/7/2010

W. Khantuwan, J. Khiripet, N. Khiripet, Method for Finding 3D Medial Axis on the GPU, Filling No. 1001000929, 24/6/2010

N. Khiripet, W. Khantuwan, Method for 3D Human Body Shape Estimation from Measurements, Filling No. 1001000031, 8/1/2010

N. Khiripet, W. Khantuwan, Methods of Language Identification for Optical Character Recognition by Segmentation Statistics, Filling No. 0801006683, 26/12/2008

N. Khiripet, J. Khiripet, W. Khantuwan, Method for Identifying Genes Responsible for Polygenic Diseases, Filling No. 801004237, 15/8/2008