

# Virod Chiraphadhanakul

3534 Sukhumvit Rd. Bangna Bangkok 10260 | (081) 834-3314  
virod.ch@gmail.com | <http://ta.virod.me>

## EDUCATION

2013	<b>Massachusetts Institute of Technology</b> , Cambridge, MA PhD in Operations Research	GPA: 5.0/5.0
2010	<b>Massachusetts Institute of Technology</b> , Cambridge, MA Dual SM in Transportation and Operations Research	GPA: 5.0/5.0
2007	<b>Chulalongkorn University</b> , Bangkok, Thailand Bachelor of Engineering (Computer Engineering)	GPA: 3.97/4.00 (Graduated 1st in a class of 700 students)

## SKILLS

<b>Computer Programming Languages</b>	Java, Python, C++, C, C#, .NET
<b>Data Management</b>	Hadoop, MapReduce, Hive, MySQL
<b>Mathematical/Statistical Tools</b>	R, Matlab, S-Plus, SAS, CPLEX, OPL Studio, Gurobi
<b>Web Technologies</b>	JavaScript, React.js, HTML, CSS
<b>Visualization Libraries</b>	d3.js, Processing
<b>Courses</b>	data mining, statistics, demand modeling, linear optimization, network optimization, integer programming and combinatorial optimization, probability, discrete stochastic processes, operations management, and logistics and supply chain management

## EXPERIENCE

<b>Skoldio</b> , Bangkok, Thailand <b>Managing Director</b>	2016 - Present
Build a learning platform to help people master today's most in-demand skills and unlock their potentials	
<b>Facebook Inc.</b> , Menlo Park, CA <b>Data Scientist</b>	2013 - 2016
Analyze complex, high-volume data from varying sources and identify and answer questions that help Facebook build the best products and software.	
<b>MIT, Operations Research Center</b> , Cambridge, MA <b>Research Assistant</b>	2007 - 2013
My research is focused on optimizing large-scale transportation systems.	
<b>Vehicle-sharing system design:</b>	
<ul style="list-style-type: none"><li>• Processed publicly available transit schedules and modeled a transit graph for a major city.</li><li>• Formulated and solved various network optimization problems over the transit graph to evaluate the impacts of different designs of bike/car-sharing systems on trip times, commuter choices, and emission.</li></ul>	
<b>Limited-stop bus service design:</b>	
<ul style="list-style-type: none"><li>• Analyzed large amount of public transit turnstile data to understand demand and usage pattern in a major city.</li><li>• Developed an optimization model together with an efficient solution approach to determine a limited-stop bus service design that minimizes total passenger travel time.</li><li>• Performed statistical analyses to understand the impacts of different service attributes on potential benefits of limited-stop services.</li></ul>	

### **Robust airline schedule planning:**

- Created a visualization tool to facilitate analyses of complex airline operational data.
- Built optimization models for schedule adjustment to minimize delays and disruptions based on historical data.
- Evaluated the resulting schedules through simulation using various performance metrics.

**FedEx Services, Pricing Science and Engineering**, Memphis, TN

Summer 2011

### **Revenue Management Intern**

- Developed analytics tools that visualize different performance metrics (e.g., load factors and freight densities) of flights in FedEx's network and show how packages shipped by different services are routed throughout the network.
- The tools facilitate analysis of both historical data and solutions from optimization models to gain insights into current network performance and understand behavior of the optimization models.

## **AWARDS**

- 2015 **Honorable Mention**, USDA Innovation Challenge (<http://croptrends.virot.me>)
- 2014 **Third Prize**, Bayes Impact Hackathon (<http://seanjtaylor.github.io/out-for-justice/>)
- 2014 **Overall Best Visualization**, Bay Area Bikeshare Data Challenge (<http://bayareabikeshare.virot.me>)
- 2012 **Overall Best Visualization**, Hubway Visualization Challenge (<http://hubway.virot.me>)
- 2012 **Finalist**, Exploration & Exploitation Challenge 3 (sponsored by Yahoo! Research), 29<sup>th</sup> International Conference on Machine Learning 2012. The task is to build an algorithm for recommending news articles on a website that efficiently balances the tradeoff between “exploitation” of the article with the highest expected click through rate (CTR) and “exploration” of other articles to learn more about their CTRs.
- 2012 **Finalist**, ROADEF/EURO Challenge 2012 (sponsored by Google). The challenge is to improve machine usage by reassigning processes to different machines. Moving a process incurs costs and is limited by many hard constraints. Huge problem sizes and the very limited solving time pose the biggest difficulties in solving this.
- 2011 **UPS Doctoral Fellowship**, awarded solely on academic merit to a student who conducts doctoral research in logistics, supply chain, and freight transportation, MIT Center of Transportation and Logistics.
- 2011 **Professional Colloquium**, INFORMS Conference on Business Analytics and Operations Research 2011
- 2011 **Semifinalist (Transportation Category)**, MIT Clean Energy Prize, a venture creation and innovation competition open to all United States university students.
- 2010 **Third Prize**, 2010 Railway Application Section Problem Solving Competition, Institute for Operations Research and the Management Sciences (INFORMS). The objective is to determine a feasible locomotive fueling plan that minimizes total fuel-related expenses over the planning horizon.
- 2007 **Schoettler Fellowship**, granted to first-year graduate students on the basis of merit, MIT.
- 2006 **Outstanding Academic Achievement**, awarded to the top-scoring engineering student of each university by Engineering Institute of Thailand under H.M. the King's Patronage (EIT).
- 2006 **Outstanding Academic Achievement**, awarded to the best engineering student, Chulalongkorn University.
- 2006 **Merit award**, “Best mobile game – Symbian” category, Thailand Animation and Multimedia exhibition.
- 2005 **Winner Overall Score**, DTAC & Nokia iAwards 2005, a mobile application development contest organized jointly by Nokia and DTAC, Thailand's second largest mobile communications provider.

## **LEADERSHIP**

- 2012 **Organizing Committee Chair**, Transportation@MIT Data Hack-a-thon 2012
- 2012 **Student Coordinator**, ORC IAP Seminar 2012
- 2011 **Director**, MIT-Harvard Thai Night 2011
- 2008 **Social Chair**, Thai Student Association at MIT
- 2004 **President of Engineering Students**, Faculty of Engineering, Chulalongkorn University