Philip SITUMORANG

EDUCATION

University of Pennsylvania
M.S.E, Data Science
December 2022

Temple University
B.B.A, Actuarial Science
Magna Cum Laude
May 2015

SKILLS

- Python, R, SQL
- OracleDB, MySQL
- PowerBI, Tableau, ArcGIS
- Dataiku, GitHub, LaTeX
- Machine Learning, Statistics
- Probability Theory

LANGUAGES

Bahasa **Indonesia** (Native)

PAGE

https://psitumorang.github.io

CONNECT

- LinkedIn/philip-situmorang
- GitHub/psitumorang

EXPERIENCE

DATA SCIENTIST (GS-13)   **2023.06–pres.**
Volpe National Transportation Systems Center
Cambridge, MA (Remote)

◇ Leads a team of four statisticians who designed the sampling and analysis plan of the heavy duty truck study of the Crash Causal Factors Program, a $30 million research project aimed at reducing fatalities in U.S. truck crashes.

◇ Authored a study which identified factors contributing to fatality in heavy duty truck crashes. Used Python and InterpretML's Explainable Boosting Machine to model over 3 million crashes recorded in Federal Motor Carrier Safety Administration (FMCSA)'s database and presented the findings to FMCSA's Crash Analytics Division Chief.

◇ Built the Roadside Inspection Effectiveness Model which evaluates the effectiveness of FMCSA's roadside inspections program in reducing crashes. Used R and SQL to discover statistically significant association between higher inspection rates and greater drop in crash rates among U.S. motor carriers and presented the findings to FMCSA's Associate Administrator of Office of Research & Registration.

◇ Built the Training Provider Audit Prioritization Model which the FMCSA uses to prioritize CDL training providers to audit. Used Python and SymPy to analyze 4 million rows of training inputs and applied probability theory to identify and rank high risk training providers to be audited. Presented the model to the FMCSA Commercial Drivers License Division Chief.

MANAGER, STRATEGIC ADVISORY AND ANALYTICS   **2015.08–2018.07**
Jardine Lloyd Thompson Re
Philadelphia, PA / Jakarta, Indonesia / Singapore, Singapore

◇ Built relationships with clients, brokers, and actuaries to understand client risk goals, communicate data needs, discuss methodologies, and conduct peer reviews on analytical products. Authored analysis reports and used data visualization to communicate findings and recommendations.

◇ Performed actuarial analyses into JLT Re's client portfolios to provide quantified risk indications and structure contracts for clients and reinsurers. Portfolios included private and public entity risks such as property, general liability, lawyer's liability, medical malpractice, and inland marine.

◇ Performed data quality maintenance and extract, transform, and load (ETL) tasks to prepare and transform client datasets. Enforced JLT Re's data quality requirements to ensure highest standards in the analytical products.

INTERNSHIPS

SUPPLY CHAIN AI/ML INTERN   **2022.06–2022.08**
Merck & Co., Inc. Kenilworth, NJ (Hybrid)

◇ Analyzed SAP data and identified cause of supply overflow problem faced by Merck's warehouse managers beginning in 2020. Used data visualization to prepare and communicate report to the AI/ML product manager.

◇ Built neural net and random forest forecasting models to anticipate warehouse overflow. The models provided a 1-year forecast of a warehouse's inventory levels based on the 1-year production schedule of its associated drug-manufacturing plant. Presented the product to Merck's Executive Vice President of Supply Chain.

Philip **Situmorang**
United States Army Reserves
Active DoD Secret Clearance

Deployments

Operation Enduring Freedom
Bagram, Parwan, **Afghanistan**
2012-2013

Primary Military Education

Army Logistics University
Captains' Career Course
April 2023

Army Logistics University
Basic Officer Leaders' Course
June 2020

U.S. Army Infantry School
Officer Candidate School
January 2020

Military Courses

Company Commanders and First Sergeants' Course
November 2023

Military Experience

Commander   2023.03–pres.
C Company, 3-518 Infantry Regiment
Blackwood, NJ

◇ Leads 25+ drill sergeants and drill sergeant candidates in training new recruits and established reserve units in New Jersey and neighboring states. Plans and executes annual unit operations schedule which balances drill sergeants' training support operations, professional development, and maintenance of physical fitness and tactical skills proficiency.

◇ Cultivates a culture of trust, belonging, and excellence that soldiers want to be a part of. Cares for soldiers and dedicates time to their success and well-being, inside and outside of the military.

Executive Officer   2020.06–2023.02
Headquarters Co., Special Troops Battalion, 77th Sustainment Brigade
Fort Dix, NJ

◇ Administered a company of approximately 200 reservist soldiers. Led, planned, and executed weapons qualifications operations, physical training events, and unit development initiatives to improve and maintain unit proficiency in performing its key tasks.

◇ Exercised initiatives to accomplish unit objectives for a period of six months during the vacancy of a company commander. Directly rated 15 soldiers in their performance and potential evaluations.

Maintenance Systems Sergeant   2013.09–2016.03
223rd Transportation Company, Newtown Square, PA

◇ Led a team of five soldiers in maintaining 30+ tactical vehicles. Collaborated with unit motorpool supervisor, maintenance technicians, and section leaders to understand operational needs and communicate maintenance status of unit vehicles. Authorized the release and use of unit vehicles and issuance of military drivers' licenses.

Non-Commissioned Officer in Charge   2012.12–2013.09
Bagram Supply Support Activity, 101st Airborne Division

◇ Supervised daily operations of Bagram Air Force Base's Supply Support Activity, which was the largest warehouse in the U.S. Army. The warehouse supported around 750 U.S. military units, employed 200 civilian contractors, and stored $650 million in U.S. government property.

◇ Built and maintained relationships with supported units to understand and meet their supply needs. Advised units on military supply matters and provided recommendations on steps they can take to solve problems relating to military supplies.

◇ Led a team of 20 soldiers and 10 local nationals in a four-month construction project of new warehouse storage shelves. The $5 million project doubled storage capacity, improved employees' ability to organize and store materials, and ultimately expedited material fulfillment to clients.

Logistics Specialist   2010.11–2013.08
157th Combat Sustainment Support Battalion
Willow Grove, PA