

# Titus Lungu

*Product | Entrepreneur | Developer*

www.tituslungu.com

tituslungu@gmail.com

Los Angeles, California

U.S. Citizen

## Education

### **Master of Science, Artificial Intelligence | Machine Learning | Robotics, June 2017**

University of California, Los Angeles

Los Angeles, California

Henry Samueli School of Engineering and Applied Science

*Artificial Intelligence and Health Informatics, Automated Reasoning: Theory and Applications, Graphs and Network Flows, Linear Dynamic Systems, Linear Optimal Control, Pattern Recognition and Machine Learning, Probability and Stochastic Processes in Dynamical Systems, Quantitative Methods in Cognitive Psychology, Statistical Modeling and Learning in Vision and Cognition, Stochastic Estimation*

### **Artificial Intelligence Nanodegree, December 2017**

Udacity

*Search and Optimization, Constraint Satisfaction, Simulated Annealing, Probability Models, Logic, Reasoning, Planning, Bayes Nets, Hidden Markov Models, Computer Vision, Natural Language Processing (NLP), Voice User Interfaces*

### **Deep Learning Nanodegree, July 2017**

Udacity

*Deep Learning, Neural Networks, CNNs, RNNs, LSTMs, GANs, DCGANs, Embeddings, Word2Vec, Reinforcement Learning, Transfer Learning, Autoencoders, Sequence to Sequence, Language Translation, TensorFlow, Cloud Computing, Sentiment Analysis, Data Visualization, One-Shot Learning, Semi-Supervised Learning, Probabilistic Programming*

### **Bachelor of Science, Mechanical Engineering, May 2016**

GPA: 3.90

Cleveland State University

Cleveland, Ohio

Washkewicz College of Engineering, Mandel Honors College

*Summa c. Laude, Tau Beta Pi Engineering Honors Society, IEEE Robotics and Automation Society, American Society of Mechanical Engineers, Cleveland Engineering Society, Engineering Co-op Program, President's List, Dean's List*

## Skills

### *Computer*

C++; C#; HTML5; CSS; Python; Django; JavaScript; TensorFlow; TensorBoard; Linux Bash; Git; Pandas; Scikit-Learn; SQL; NoSQL; AWS; Shopify API; React Native; MATLAB; Java; Unity3D; OpenCV/EmguCV; Arduino; Visual Studio; ROS; Gazebo; V-Rep Robotic Simulation; SolidWorks; Autodesk Inventor; SAP

### *Manufacturing*

Subtractive: horizontal lathe, vertical mill, CNC machine coding; Additive: 3D printing

### *Languages*

English, Romanian, French

## Experience

### **Product Manager & Cloud Architect, Street Simplified, LLC.**

Los Angeles, CA

3/2019 - Present

- Street Simplified uses deep learning and AI to provide industry-leading video safety analytics to municipalities, empowering them to proactively improve the safety and efficiency of traffic. I've developed our entire cloud automation platform and work closely with our CEO to shape our product strategy and market approach. Additionally, I lead and manage outsourced developers and designers for our online visualization platform, test software and algorithm updates and push them into production, and coordinate with customers to ensure projects are properly executed and delivered in a timely manner.

### **CEO and Co-Founder, Stylify Fashion, Inc.**

Los Angeles, CA

3/2017 - 7/2020

- Stylify empowers users to discover unique fashion and save time in our personalized shopping app. Our proprietary deep learning engine, created fully in-house, understands a user's style preferences from what they wear in pictures. This allows us to show them the apparel they want with over a 90% accuracy and command an intent-to-purchase of more than 3 times the industry average, thus increasing their chances of conversion.
- We were accepted to UCLA's Anderson Venture Accelerator as well as the Startup UCLA accelerator. Over the course of our journey as a startup, I've had the opportunity to pitch to investors, executives, and managers at corporations and startups from six continents. These include Lightspeed Ventures, Kleiner Perkins, Pinterest, eBay, AWS/Amazon, Snapchat, Stitch Fix, Nike, Nordstrom, L Brands, SAP, PVH Corp, and QVC, among many others.

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**Robotics Control**, University of California, Los Angeles - Dr. Song-Chun Zhu

9/2016 - 2/2017

*Center for Vision, Cognition, Learning, and Autonomy*

- Learned how to use the Robot Operating System (ROS) and send commands to a Rethink Robotics Baxter robot wirelessly through the Linux terminal.
- Investigated methods for creating a smooth position and velocity controller for the seven degree-of-freedom robot arms.
- Tested force/torque sensors in robot wrists to ensure accurate recording could be done through the respective ROS Topics.

**Machine Learning**, Cleveland State University - Dr. Eric Schearer

5/2015 - 7/2016

*Mechanics and Control of Living Systems Laboratory*

- Using machine learning to improve control and incorporate intuitive caregiver feedback in Functional Electrical Stimulation neuroprostheses for patients with tetraplegia, to allow them to regain functionality in their arms.
- Using Gaussian Process Regression (GPR) in MATLAB to learn inverse dynamics of a system and use this to control the system in a new way.
- Working with Dr. Antonie van den Bogert to modify Dynamic Arm Simulation software to incorporate GPR for learning inverse dynamics of the human arm.
- Designing and building a robot to be controlled with GPR and learn new motions based on tactile feedback. Working with Dr. Hanz Richter.
- Working with the Physical Therapy department at Cleveland State University to modify toy electric cars for children with disabilities, particularly down-syndrome.

**Active Surveillance as a Service**, Cleveland State University

8/2015 - 5/2016

*Senior Design Capstone Project*

- Creating a prototype of a cloud-hosted software to stream live surveillance footage from security cameras throughout a city.
- Utilizing machine learning and computer vision techniques to detect pedestrians in-frame and track individuals throughout a video and across multiple cameras.
- Developing portable security modules for students to carry and signal the occurrence of a crime via a button press, which captures GPS location of the crime.
- Constructing appropriate database infrastructure, hosted on Microsoft's Azure cloud, to collect and organize all data from the system and stream it to a client side app.
- Developing a client side app to stream live camera footage and provide GPS tracking of criminal suspects for law enforcement use.

**Robotic Simulation**, Case Western Reserve University - Dr. Roger Quinn

6/2015 - 8/2015

*Biologically Inspired Robotics Laboratory*

- Learning to use Gazebo Simulation software in Ubuntu and wrote a comprehensive set of operating instructions.
- Compiling detailed list of simulation tools to help make informed decisions on the best software for the lab.

**Biomechanics**, Cleveland State University - Dr. Jason Halloran

12/2014 - 5/2015

*Mechanics and Control of Living Systems Laboratory*

- Designing simulation-informed prosthetic sockets for lower limb amputees utilizing Python, Salome, and Slicer.
- Using growth segmentation methods in Slicer to analyze geometries from MRI images.
- Developing preliminary script for automated creation of socket geometries using iterative analysis.

**Swagelok**, Valve Services Group - *Design Engineer Intern*

Solon, Ohio

5/2014 - 8/2014

- Led design and process/efficiency improvement projects while understanding valve inner workings and other fluid products.
- Designing, analyzing, and testing new test fitting for valves for high pressure applications.
- Optimizing tool chain layout of a mill-turn CNC machine to save \$40,000 per year by increasing cycle efficiency.
- Rewriting over 130 CNC programs for new tool positions for mill-turn machine.
- Cataloging, drafting, and redesigning over 500 unique assembly tools and company policy for future tooling organization.
- Arranging team meetings, presenting projects, and updating company documentation which resulted in a positive and progressive impact on upper management.

**Parker Hannifin**, Hydraulic Valve - *Design Engineer Intern*

Elyria, Ohio

10/2013 - 12/2013

- Working with Engineering, R&D lab, and Quality while understanding full process to produce products.
- Various research projects such as finding a replacement material for old copper-lead gaskets and a finding possible vendors.
- Lab testing/inspection of valve materials.

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- Drafting and preparing material corrosion reports for customers.
- Quality testing of spool dimensions for various valve sizes.
- Finding appropriate replacements for valves that are obsolete and indicating valve parts for discontinuation.

**Cristal**, Reliability Department - *Reliability Engineer Co-op*

Ashtabula, Ohio

5/2013 - 8/2013

- Cooperating with Rotating Equipment Engineer using software such as SAP to compile information for plant equipment.
- Reviewing pipe circuits for coherence and recommend new more efficient piping circuits for the plant's hazardous chemicals.
- Drafting isometric drawings of HCl piping in the plant.
- Preparing inspection report summaries for administration to review and present projects to upper management.
- Communicating with OEMs to acquire data sheets and performance curves on their products.
- Inspecting in field for tanks, spools, pipes, heat exchangers, and other instrumentation.

## Publications, Conferences, Presentations

- **Senior Design Capstone Project:** "Active Surveillance as a Service", Cleveland State University, May 2016
- **Honors Thesis:** "Using Tactile Feedback and Gaussian Process Regression in a Dynamic System to Learn New Motions", Cleveland State University, May 2016.
- **University Journal:** Lungu, Titus; Tachynskyy, Igor; and Tayyara, Omri. "Walking Simulator Mechanism." *The Downtown Review*. Vol. 2. Iss. 2 (2015). <<http://engagedscholarship.csuohio.edu/tdr/vol2/iss2/4/>>.
- **Conference Poster:** Lungu, Titus; Schearer, Eric M. "Learning Inverse Dynamics with Gaussian Process Regression." The 9<sup>th</sup> Annual Cleveland State Interdisciplinary Research Conference. Cleveland State University. Cleveland, Ohio. Nov. 2015.
- **High School Presentation:** Lungu, Titus. "Robots, Prosthetics, and Artificial Intelligence." High School Fall Visit Day. Cleveland State University. Cleveland, Ohio. Oct. 2015.
- **Research Poster:** Lungu, Titus; Schearer, Eric M. "Learning Inverse Dynamics with Gaussian Process Regression." Engineering Research Day. Cleveland State University. Cleveland, Ohio. Oct. 2015.

## Honors

- National Science Foundation Graduate Research Fellowship Program, 2016 - *Honorable Mention for excellent research proposal*
- 1<sup>st</sup> Place, Senior Design Capstone Project, Cleveland State University, 2016 - *Interdisciplinary team, placed first out of over 60 teams (\$1,000)*
- Summa c. Laude, Cleveland State University, 2016
- Outstanding Mechanical Engineering Student Achievement Award, Cleveland State University, 2016 - *Highest GPA out of mechanical engineering class*
- Undergraduate Research Grant, Cleveland State University, 2015 - *\$1,000 stipend for machine learning research proposal*
- President's Award for Excellence in Diversity, Cleveland State University, 2015 - *Received in collaboration with the engineering Dean's Diversity Council for taking inclusion and mentorship initiatives*
- Honors College Scholarship, Cleveland State University, 2012-2016 - *Full tuition, four year scholarship (\$40,000) based on strong academic record and personal statement*

## Leadership

**Jack, Joseph and Morton Mandel Honors College**, Cleveland State University

8/2012 - 5/2016

Honors Student

- Keynote speaker at the Honors College dedication ceremony, November 9, 2015.
- Member of the search committee for the dean of the Honors College at Cleveland State.
- Representative to the Board of Trustees on behalf of the Honors College at Cleveland State.
- Editor for *The Downtown Review*, a "double-blind" peer reviewed academic journal.

**Washkewicz College of Engineering**, Cleveland State University

1/2014 - 5/2016

Student Leader

- Student representative to the Inter-University Council meeting in Columbus, Ohio. Met with state senators and representatives to discuss funding, educational, and social issues affecting Ohio public universities.
- Working with Parker Hannifin executives and engineers to design a new company-sponsored laboratory in the engineering college.
- Working with the dean, architects, and professors on the Leadership Planning Team for the new engineering building.

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- Attending *Ideas for Tomorrow* Speaker Series at The Cleveland Clinic, featuring Dr. Sebastian Thrun and Dr. David Agus.
- Attending Youth Forum on *The Power of Innovation* at the City Club of Cleveland.

## **American Society of Mechanical Engineers**, Cleveland State University

1/2013 - 1/2015

President (2014), Treasurer (2013)

- Designing and constructing a hexapod robot for salting snowy walkways and spreading fertilizer on various terrains.
- Placing first in university's catapult competition for distance and target destruction.
- Assisting the Dean's office with plans for college renovations and office relocation.
- Repairing Plastic Injection Molding Machine in Cleveland State University's machine shop.
- Partnering with Piccadilly Group LLC., a new small business in Cleveland, and help market them as a fundraising event.

## **Dean's Diversity Council**, Cleveland State University

11/2014 - 5/2015

Student Representative

- Received the President's Award for Excellence in Diversity 2014-2015.
- Created mentoring program to pair engineering students with industry engineers to provide tailored guidance and one-on-one support for students in everything from career building to time management and studying tips.
- Communicating student diversity issues and increasing awareness of council's actions and events throughout college.
- Ensuring the inclusion and participation of minorities through events, conferences, and competitions at Cleveland State University and elsewhere.

## **Presidential Student Ambassador**, Cleveland State University

9/2013 - 12/2014

- Representative and volunteer at presidential events, Board of Trustees functions, awards ceremonies, and charitable events such as *Relay for Life*.
- Volunteering at and attending TEDx Cleveland State University 2014, *The Right to Dream*.

## **Youth Group Committee**, Cleveland Romanian Baptist Church

4/2010 - 5/2014

Secretary

- Partaking in two humanitarian aid/mission trips to impoverished areas of the Romanian countryside.
- Communicate events, meeting times, and other proceedings to all members of youth group and church leadership.
- Helped organize local, national, and international activities and programs including holiday concerts, national conventions and youth camps across the US, and trips to Romania.