

# JULIAN C. CASTORO

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## EDUCATION

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**Master of Science, Computer Science** *University of Massachusetts Amherst* Expected May 2023  
**Tandon MS CS Bridge, Certificate of Distinction**, *New York University* Jan. – July 2021  
**Bachelor of Science, Industrial Engineering** *The Pennsylvania State University, University Park* 2015 - 2018  
GPA 3.34

## PROJECTS

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**Auto Tee-Time Booking System** Personal | Python | Django

- Currently local Selenium program, plans to extend it to Django with scheduling

**Elevation based Navigation Application** Class Project | Java | Django

- Queries public geographical data, determines best fit route based on user elevation preferences and displays route and information to user

**Creation of MapReduce System** Class Project | C++ | SPARK

- Created local MapReduce system which mimics actual distributed MapReduce behavior
- Capable of running arbitrary MapReduce programs, results verified with SPARK
- System capable of fault tolerance and load balancing

**Deep Neural Network Model Compression** Class Project | Python *PyTorch, SciPy and NumPy*

- Improved model training time while maintaining accuracy by implementing pruning based algorithms (oneshot-pruning) and magnitude based pruning
- Implemented algorithms which removed network connections based on their weight, increasing sparsity while maintaining accuracy

**Deep Neural Network Acceleration for Novel Hardware** Class Project | Python, C *PyTorch, SciPy and NumPy*

- Built an optimizer which takes in high level python model code and generates hardware optimized code
- The targeted hardware has a special 7 word vector instruction which required high level optimizations such as padding
- Padded code was then translated to low level c code using the special vector instruction as a function

## EXPERIENCE

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**Nestlé Factory Management Development Program (FMDP)** (*Anderson, Indiana*) 2018-2020

- Operated as a central member of an 11 person leadership team at Nestlé's most complex manufacturing site in the US responsible for \$1.2 million daily profit
- Leadership trainings include: Leadership through safety, SPARK leadership, People management at Nestlé

Maintenance Manager of the Packaging Department 2019-2020

- Managed 4 salaried direct reports, total team of 24 employees
- Developed automatic system to archive and reformat site wide updates requiring approval from site management
- Implemented Microsoft Flow software to strengthen inventory management system
- Accomplished a 14% year-over-year improvement of unplanned line stops; including the lowest monthly unplanned stops in the history of the site
- Achieved 12% year over year reduction in time lost due to breakdowns generating \$3.3 million in additional revenue for the year
- Spearheaded injection molding optimization project leading to \$1.1 million in weekly cost avoidance

## SKILLS

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Proficient: C++, Python

Familiar: Java, HTML, Django, Spark, PyTorch, SciPy and NumPy

Six Sigma Green Belt Certified