

# Agustin Guerra

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## PROFESSIONAL PROFILE

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Highly motivated civil engineer with 5+ years of experience in the transportation industry. Committed to providing high-quality service focusing on innovation, safety, sustainability, operational performance, diversity equity and inclusion. Currently seeking internship opportunities

## EDUCATION

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### University of Florida

*PhD. in Civil Engineering*

Gainesville, FL

*Aug. 2019 – Expected May 2023*

### University of Kansas

*MS in Civil Engineering*

Lawrence, KS

*Aug. 2017 – May 2019*

### Universidad Tecnologica de Panama

*BS in Civil Engineering*

Panama, PA

*March 2008 – May 2013*

## TECHNICAL SKILLS

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**Expertise:** Transportation Engineering, Operation Research, Machine Learning, Statistical Analysis

**Languages:** Python, R

**Softwares:** AutoCAD Civil 3D, Infracore, Slide-Rockscience

**Developer Tools:** Github, Visual Studio

**Libraries:** pandas, NumPy, Matplotlib, CPLEX

## EXPERIENCE

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### Graduate Research & Teaching Assistant

*University of Florida*

Aug. 2019 – Present

*Gainesville, FL*

- Developed optimization algorithms for corridors considering automated-vehicles capabilities
- Assisted on the testing of optimization algorithm for isolated intersections
- Assisted on promoting the outreach of the University of Florida Transportation Institute (UFTI)
- Student Representative at the Internal Steering Committee at UFTI
- ITE Student Chapter vice-president
- TA for TTE 6267: Traffic Flow Theory

### Highway & Traffic Consultant

*WSP*

May 2019 – Aug. 2019

*Panama*

- Provided safety assessment for interchanges, on-ramps, off-ramps, and roundabouts
- Developed geometric design proposals
- Conducted earthwork estimation for highway projects

### Highway Engineer

*Louis Berger*

July 2014 – Aug. 2017

*Panama*

- Developed geometric designs for proposal and as-built drawings for highway projects. Project portfolio comprises several projects in the Latin American region (Panama, Colombia, Honduras, and Peru) adding up to \$3 billion in construction amount
- Coordinated with different departments (geotechnical, hydraulic, and pavement) to achieve deadlines
- Developed digital model terrain (DTM) for highway projects
- Assisted with slope stability analysis
- Supervised drafter team (4 people)

## PROJECTS

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### 4th Bridge over the Panama Canal | *Panama*

May 2019 – Aug. 2019

- A cable-stayed bridge across the Panama Canal, 450 m span with two interchanges on both ends and a clearance of 80 m
- Construction amount \$1.2 billions

- Portobelo - Maria Chiquita Highway (Proposal)** | *Panama* May 2019 – Aug. 2019
- Rural multi-lane highways in a mountainous terrain about 33 km length
  - The proposal included two main interchanges
- Corredor Panama Norte** | *Panama* Jan. 2016 – June 2017
- Widening from Two to Four-lane highway of 9.42 km length including five interchanges, medium terrain
  - Design included sidewalks, and bike path along the corridor
  - This projects considered as principal constraints a 1 m diameter pipe below the existent alignment
  - Construction amount: \$95.0 millions
- Corredor Perimetral Oriente de Cundinamarca** | *Colombia* Jan. 2015 – Dec. 2015
- Included 45 km of new alignments and 73.9 km of rehabilitation in a mountainous terrain, rural 2-lanes highway
  - The design included sidewalks, bike paths, 6 roundabouts, and 2 interchanges
  - Construction amount: \$428.0 millions
- Line One of the Panama Metro** | *Panama* Nov. 2014 – Dec. 2014
- Around 1 km of reconstruction of a urban arterial, level terrain
  - The design included sidewalks and bus-stop bays
  - It included the adequation of U-turns and reshaping from 3 to 2 lanes per direction to alleviate traffic and provide more surface for pedestrians
- Corredor Panamerican Highway Section Santiago -Vigui** | *Panama* Jan. 2014 – Dec. 2014
- Widening from two to four-lane highway of 70 km length including several intersection on rural setting
  - The design includes sidewalks, along the corridor in urban areas. Level to moderate terrain
  - Construction amount: \$340.0 millions
- Corredor Turistico La Barca – El Progreso – Tela** | *Honduras* July 2014 – Aug. 2014
- Widening from two to four-lane highway of 105 km length including 3 roundabouts in urban settings
  - The design includes sidewalks, along the corridor in urban setting
  - Construction amount: \$120.0 millions
- Slope Stabilization Studies 53 km** | *Panama* Feb. 2014 – Apr. 2014
- Slope characterization, and stability analysis of the Madden-Colon corridor
  - Alternatives such as soil nailing, reshaping and drainage improvement were proposed
  - For embankments solutions as Mechanically Stabilized Earth (MSE) walls were proposed
  - Construction amount: \$0.4 millions
- Hydroelectric Project Chan II (Proposal)** | *Panama* Jan. 2014 – Nov. 2014
- The project located on mountainous terrain required several access roads to allow the construction
  - Construction amount: \$1000.0 millions
- Amador Widening** | *Panama* Jan. 2014 – Feb. 2014
- Marine embankment of 3.3 km length on level terrain, including 5 roundabouts to improve mobility
  - The project included children's park and ground improvements technics such as densification, replacement, geotextile inclusion, mechanic stabilization, MSE walls
  - Construction amount: \$95.0 millions
- Coastal Beltway** | *Panama* Nov. 2012 – Apr. 2013
- Elliptical roundabout and multiple level intechanges at both end of a marine viaduct
  - This project was elected on 2015 as the Global Best Project in Roads and Highways by the ENR
  - The design included sidewalks, and bike path along the corridor
  - Viaduct of 3 km above sea water, surrounding the Panama's old-town
  - Construction amount: \$ 45 millions

## AWARDS

**Fulbright Fellowship:** Awarded by the U.S embassy in Panama to complete a Master's Degree at the University of Kansas

## REFERENCES

**Lily Elefteriadou PhD:** Barbara Goldsby Professor, Director of the UFTI elefter@ce.ufl.edu  
**Gabriel Borrás:** Country Manager WSP Panama gabriel.borras@wsp.com  
**Sofia Berger:** Senior Vice President, Advisory Services WSP sofia.berger@wsp.com