

# Agustin Guerra H.

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## 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

*March. 2008 – May 2013*

## EXPERIENCE

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### Graduate Research & Teaching Assistant

*University of Florida*

August 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 UFTI department.
- 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*

Jul. 2014 – Aug. 2017

*Panama*

- Developed geometric designs for proposal and as-built drawings for highway projects. My project portfolio comprises several projects in the Latin American region (Panama, Colombia, Honduras, Peru) adding up to \$3 billion in construction amount.
- Coordinated with different departments (geotechnical, hydraulic, 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 – August 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 – August 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 – Jun 2017

- Widening from Two to Four-lane highway of 9.42 km length including five interchanges, medium terrain.
- The design included sidewalks, and bike path along the corridor.
- This projects considered as principal constraints a 1 meter diameter pipe below the existent alignment.
- Construction amount: \$95.0 millions

<b>Corredor Perimetral Oriente de Cundinamarca</b>   <i>Colombia</i>	Jan 2015 – Dec 2015
<ul style="list-style-type: none"> <li>• Included 45 km of new alignments and 73.9 km of rehabilitation in a mountainous terrain, rural 2-lanes highway.</li> <li>• The design included sidewalks, bike paths, 6 roundabouts and 2 interchanges.</li> <li>• Construction amount: \$428.0 millions</li> </ul>	
<b>Line One of the Panama Metro</b>   <i>Panama</i>	Nov 2014 – Dec 2014
<ul style="list-style-type: none"> <li>• Around 1 km of reconstruction of a urban arterial, level terrain.</li> <li>• The design included sidewalks and bus-stop bays.</li> <li>• It also included the adequation of U-turns and reshaping from 3 to 2 lanes per direction to alleviate traffic and provide more surface for pedestrians.</li> </ul>	
<b>Corredor Panamerican Highway Section Santiago -Vigui</b>   <i>Panama</i>	Jan 2014 – Dec 2014
<ul style="list-style-type: none"> <li>• Widening from two to four-lane highway of 70 km length including several intersection on rural setting.</li> <li>• The design includes sidewalks, along the corridor in urban areas. Level to moderate terrain.</li> <li>• Construction amount: \$340.0 millions</li> </ul>	
<b>Corredor Turistico La Barca – El Progreso – Tela</b>   <i>Honduras</i>	Jul 2014 – Aug 2014
<ul style="list-style-type: none"> <li>• Widening from two to four-lane highway of 105 km length including 3 roundabouts in urban settings.</li> <li>• The design includes sidewalks, along the corridor in urban setting.</li> <li>• Construction amount: \$120.0 millions</li> </ul>	
<b>Slope Stabilization Studies 53 km</b>   <i>Panama</i>	Feb 2014 – Apr 2014
<ul style="list-style-type: none"> <li>• Slope characterization, and stability analysis of the Madden-Colon corridor.</li> <li>• Alternatives such as soil nailing, reshaping and drainage improvement were proposed.</li> <li>• For embankments solutions as MSE walls were proposed.</li> <li>• Construction amount: \$0.4 millions</li> </ul>	
<b>Hydroelectric Project Chan II (Proposal)</b>   <i>Panama</i>	Jan 2014 – Nov 2014
<ul style="list-style-type: none"> <li>• The project located on mountainous terrain required several access roads to allow the construction.</li> <li>• Construction amount: \$1000.0 millions</li> </ul>	
<b>Amador Widening</b>   <i>Panama</i>	Jan 2014 – Feb 2014
<ul style="list-style-type: none"> <li>• Marine embankment of 3.3 km length on level terrain, including 5 roundabouts to improve mobility.</li> <li>• The project included children's park and ground improvements technics such as densification, replacement, geotextile inclusion, mechanic stabilization.</li> <li>• Construction amount: \$95.0 millions</li> </ul>	
<b>Expresa Sur Interchanges (Proposal)</b>   <i>Peru</i>	Nov 2013 – Dec 2013
<ul style="list-style-type: none"> <li>• Assitance on MSE wall design.</li> <li>• Construction Amount: \$ 200 millions</li> </ul>	
<b>Coastal Beltway</b>   <i>Panama</i>	Nov 2012 – Apr 2013
<ul style="list-style-type: none"> <li>• Eliptical roundabout and multiple level intechanges at both end of a marine viaduct.</li> <li>• Winner of best project.</li> <li>• The design included sidewalks, and bike path along the corridor.</li> <li>• Viaduct of 3 km above sea water, surrounding the Panama's old-town.</li> <li>• Construction Amount: \$ 45 millions</li> </ul>	

## TECHNICAL SKILLS

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**Languages:** Python, R.

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

**Developer Tools:** Github, Visual Studio.

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