

# Viyaktha Hithaishi Hewageegana

384, Maguire Village  
Apt 3  
Gainesville  
FL-32603, USA  
+1 352 870 6847  
vh.hewageegana@ufl.edu

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## PERSONAL SUMMARY

Highly motivated and innovative Coastal Engineer with expertise in coastal hydrodynamics and morphodynamic processes. I enjoy working in teams, collaborating with colleagues and solve complex coastal engineering problems.

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## EDUCATION BACKGROUND

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|---|---------------|
| <b>Ph.D. in Coastal Engineering</b>   | 2020          |
| University of Florida   |               |
| - Numerical modelling of morphodynamics in coastal environments                 |               |
| Grade Point Average (GPA) 4.00 from 4.00 (100%)                                 |               |
| <b>M.Sc in Coastal Engineering</b>  | 2017          |
| Delft University of Technology (TU Delft), The Netherlands                      |               |
| Erasmus Mundus Program in Coastal and Marine Engineering and Management (CoMEM) |               |
| Average grade 8.48 from 10 (84.8%)  |               |
| - Norwegian University of Science and Technology, Norway (Semester 1)           | 2015 (fall)   |
| - TU Delft, The Netherlands (Semester 2)  | 2016 (spring) |
| - University of Southampton, The United Kingdom (Semester 3)                    | 2016 (fall)   |
| - Deltares/TU Delft, The Netherlands (Semester 4)                               | 2017 (spring) |
| <b>B.Sc in Civil Engineering (Honors)</b>                                       | 2014          |
| University of Moratuwa, Sri Lanka   |               |
| Grade Point Average (GPA) 3.83 from 4.20 (91.2%) , First class                  |               |
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## CAREER HISTORY

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|--|------------------|
| <b>Graduate Research Assistant</b>   |                  |
| - Department of Civil and Coastal Engineering, University of Florida   |                  |
| PhD thesis : Improving the modeling of onshore sandbar migration and beach recovery                            | 2018-present     |
| <b>Internship</b>  |                  |
| - Deltares, The Netherlands  | 2017 (spring)    |
| Masters thesis : Wave transformation in mangrove coasts, A model study using XBeach                            |                  |
| - Coastal Research Centre (FZK), Hannover, Germany   | 2016 (summer)    |
| Analytical superposition of nonlinear waves in shallow water within a nonlinear Fourier transform using MATLAB |                  |
| <b>Lecturer on Contract, University of Moratuwa, Sri Lanka</b>   | 2017 & 2014-2015 |
| - Hydraulic Engineering Division at the Department of Civil Engineering  |                  |
| <b>Visiting Lecturer</b>   |                  |
| - Colombo school of Construction and Technology (Affiliated with University of Salford, UK)                    | 2015             |
| - City and Guilds Level 6 modules in graduate diploma in Engineering at SEI Campus Sri Lanka                   | 2015             |
| <b>Research Assistant</b>  | 2014 March       |
| - Tsunami vulnerability study of coastal region in Sri Lanka   |                  |
| <b>Trainee Civil Engineer</b>  | May-Oct 2012     |
| - Urgent renovation works at Unity Container Terminal, Port of Colombo, Sri Lanka                              |                  |
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## EXPERIENCES AND SKILLS

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|--|--|
| <b>Numerical modelling</b>   |  |
| - Expert proficiency in numerical modelling with XBeach  |  |
| - Proficiency in numerical modelling with Delft3D and SWASH  |  |
| - Proficiency with Machine Learning models and applications  |  |
| <b>Model development</b>   |  |
| - Expert proficiency in implementation and development in XBeach and SWASH source codes              |  |
| - Implementing a cross-shore process based morphodynamic model to study sandbar migrations in MATLAB |  |

**Computer programming skills**

- Expert proficiency in programming with MATLAB and Fortran
- Proficiency in programming with Python
- Experience in working with supercomputer architecture and data handling

**Field work experience**

- Data collection using ADCP and drone imagery at Sapelo Island Estuarine Reserve, GA

**NON-ACADEMIC QUALIFICATIONS**

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| Mayor of the graduate student housing – Maguire village, University of Florida | 2019- 2020 |
| Junior treasurer - Civil Engineering Society (CES) - University of Moratuwa    | 2013-2014  |

**Debating**

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|---|------|
| - Participation at Hulsdorf Debate, Sri Lanka Law College   | 2012 |
| - Participation and Octo finalist at the X <sup>th</sup> NLS Debating Tournament - Bangalore, India | 2012 |

**Scouting**

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|---|------|
| - Participation to Sri Lanka Model United Nations, Colombo, Sri Lanka | 2004 |
| - Participation to SAARC Friendship Camp- Thimpu, Bhutan              | 2002 |

**PUBLICATIONS**

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|---|------|
| - Hewageegana V.H and A. Canestrelli “Numerical modelling of the influence of tides on cross shore sediment dynamics” under review in Continental Shelf Research  | 2019 |
| - Hewageegana V.H and A. Canestrelli “Improving the modeling of onshore sandbar migration: The Duck, NC case “ under review Earth Surface Processes and Landforms | 2020 |

**POSTER PRESENTATIONS**

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|--|------|
| - Hewageegana, V.H, “Wave Transformation through mangrove coasts – A model study using XBeach Surfbeat”. Poster session presented at XBeachX conference, Delft Software Days 2017, Delft, NL | 2017 |
| - Hewageegana, V. H., and A. Canestrelli. "Numerical modeling of the influence of tides on beach morphodynamics." AGU Fall Meeting. 2018, Washington D.C.                                    | 2018 |

**ORAL PRESENTATIONS**

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|---|------|
| - Hewageegana, V.H, Jayawardena, D.M.S.S, Ratnasooriya, A.H.R. “Tsunami Hazards: Energy Dissipation and Impact Mitigation Using Bio Shields” Civil Engineering Research Symposium , SL      | 2014 |
| - Hewageegana, V. H., and A. Canestrelli. “ Tidal influence on coastal morphodynamics” Science by the shore symposium 2018, Whitney Laboratory, St Augustine, FL                            | 2018 |
| - Hewageegana, V. H., and A. Canestrelli. “On the predictability of sandbar migration rates: Duck, NC case” 6th Young Coastal Scientists and Engineers Conference – Americas, Corvallis, OR | 2019 |
| - Hewageegana, V. H., and A. Canestrelli. "On the ability of 2D, quasi-3D and 3D numeric models to predict sandbar migration: The Duck, NC case" AGU Fall Meeting 2019, San Francisco, CA   | 2019 |
| - Hewageegana V.H and A. Canestrelli “A simplified method to predict onshore sandbar migration: The Duck, NC case “Ocean Sciences meeting 2020, San Diego, CA                               | 2020 |
| - Hewageegana V.H and A. Canestrelli “Predicting sandbar migration using a phase resolving 3D numerical model” AGU Fall Meeting 2020, San Francisco, CA                                     | 2020 |

**WORKSHOPS AND SYMPOSIUMS**

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| - XBeach advanced course, Delft Software Days 2017, Delft, Netherlands                       | 2017 |
| - DUNEX Coastal Processes and Engineering Training course, Field Research Facility, Duck, NC | 2019 |

**PERSONAL DETAILS**

Date of birth	December 11 <sup>th</sup> 1989
Gender	Male
Nationality	Sri Lankan

**NON-RELATED REFEREES**

Alberto Canestrelli, Ph.D	Ap van Dongeren, Ph.D
Assistant Professor	Specialist
Department of Civil and Coastal Engineering	Coastal Morphodynamics
University of Florida	Deltares, The Netherlands
alberto.canestrelli@essie.ufl.edu	ap.vandongeren@deltares.nl