

RAJAT GANGRADE

E.I.T. | M.S. | B. Tech.

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(919)-780-2776

EDUCATION

Ph.D. in Underground Construction & Tunneling at **Colorado School of Mines**, Golden, CO
Advisor: Dr. Mike Mooney

(2017- Present)

M.S. in Civil & Environmental Engineering at **Virginia Tech.**, Blacksburg, VA
Concentration: Geotechnical Engineering

(2011-2013)

B.Tech. in Civil & Environmental Engineering at **V.J.T.I.**, Mumbai, India

(2007-2011)

PROFESSIONAL EXPERIENCE

Geotechnical Engineer – II at **AECOM**, Mumbai, India

(2015-2017)

Key Duties

- Reviewed the design of temporary & permanent works for stations in Mumbai Metro underground corridor
- Analyzed the damage assessment of buildings influenced by station & tunnel construction
- Analyzed & developed instrumentation & monitoring schemes & protective measures for structures
- Examined cases of proposed development within zone of influence of underground metro corridor e.g. pile & raft foundation near tunnels & U/G stations
- Designed site exploration & laboratory testing program for underground metro corridor
- Interpreted a comprehensive geological profile for 21 miles of underground metro
- Reviewed the design of ground improvement scheme over 30 hectares for metro car depot
- Coordinated project activities between Owner, Engineer & Contractor during design & construction phase

Key Projects

- Mumbai Metro Line - 3, 21 mile underground metro line connecting north & south Mumbai
- Mumbai Metro Line - 6, 7 mile Elevated Metro line connecting east-west Mumbai

Geotechnical Engineer - I at **CH2M**, Des Moines, IA

(2013-2015)

Key Duties

- Coordinated with Iowa DOT Soils Design, the Owner to ensure timely completion of projects
- Led, coordinated & performed sub-surface investigations on multiple Iowa DOT projects
- Developed geotechnical laboratory testing programs for multiple Iowa DOT projects
- Analyzed stability of slopes & settlements for highway projects
- Developed scope of work, prepared soil profiles & geotechnical reports for highway projects
- Analyzed ground improvement techniques & earthwork requirements for highway projects

Key Projects

- Preliminary & final design for 10 mile Highway 20 Corridor, Ida County, Iowa
- Final geotechnical design for Council Bluffs Interchange system, Iowa
- Final geotechnical design for 7.5 mile IA-100 Extension Project (Phase 1 & 2)
- Bear Creek Bridge replacement on U.S. – 34, Ottumwa, Iowa
- Sub-surface investigation on U.S. – 63, Waterloo, Iowa. Site was characterized with karst

Summer Intern at Larsen & Toubro (L&T), E.C.C. division, Mumbai

(2010)

Participant at National Level Camp for Civil Engineers' at IIT-Kanpur

(2009)

COURSES

Advanced Soil Mechanics	Risk Analysis in Geotech. Engineering	Seepage & Earth Structures
Foundation Engineering	Earthquake Engineering	Engineering Geology & Geotechnics*
Soil Behavior	Soil & Site Improvement	Advanced Geomaterial Mechanics*
Tunnel Design in Soft Ground*	Tunnel Design in Hard Rock*	Construction Management*

*Courses at Colorado School of Mines

SKILL-SET: RStudio (R), SLIDE, Settle-3D, RS2, WALLAP, gINT, AutoCAD, MathCAD

ACADEMIA EXPERIENCE

Research Assistant at Virginia Tech.

(2011-2013)

M.S.Thesis: Analysis of Lateral Spreading Case Histories from 2007 Pisco, Peru Earthquake
Thesis included performing back analyses on the liquefied soil cross-sections from the
Peru Earthquake (2007) to estimate the range of undrained shear strength of the liquefied soils

Teaching Assistant at Virginia Tech.

(2012-2013)

- Computer Applications in CEE
 - Addressed a class of 30 students on key coding concepts with examples pertinent to civil engineering
 - Designed assignments to assess each student's thorough understanding towards the coursework
 - Assisted the faculty with administrative tasks & curriculum development

- Foundation Engineering - II
 - Led weekly problem solving & discussion sessions for about 15 graduate students
 - Assisted the faculty in grading assignments & exams

- Earth Pressure & Foundations
 - Advised a class of 40 students on course material & industry opportunities in geotechnical engineering
 - Assisted the faculty with administrative tasks & preparing solution sets for the assignments

PROFESSIONAL AFFILIATIONS

Member, Underground Construction Association (UCA) since August 2017

Member, Society of Mining Engineers (SME) since November 2017

Member, Indian Geotechnical Society (Mumbai Chapter) since July 2016

Member, American Society of Civil Engineers (A.S.C.E.) since August 2011

AWARDS & HONORS

Performance Award at CH2M for Preliminary Design of US-20

(2015)

Performance Award at CH2M for Preliminary Design of IA-100 project

(2015)

J.R.D. Tata Scholarship for academic excellence in undergraduate coursework

(2010), (2011)

INITIATIVES & LEADERSHIP

- **UCA President**, UCA SME Student Chapter, Colorado School of Mines

(2012-13)

- **Captain & Coach**, Virginia Tech. Cricket Club, Virginia Tech.

- Extended club's participation to national & regional tournaments across US

- **Board Member**, Student Council, V.J.T.I.

(2010-11)

- Initiated mentorship programs & internship cell focusing on industry – institute interaction

- **Jt. General Secretary**, Gymkhana, V.J.T.I.

(2009-10)

- Led a team of over 300 students in organizing annual national-level sports meet

- Identified the vision & mission of the sports meet & improved the infrastructure facilities in the institute

CERTIFICATIONS

OSHA 10- hour Outreach Training Program – Construction

(2014)

Engineering Intern (E.I.) Certification, IA

(2014)

FHWA-NHI-132037 – Spread Footings: LRFD Design & Construction

(2013)