

**PREDICTION OF LIQUEFACTION POTENTIAL USING  
DEEPSOIL V7 PROGRAM**

Final Project Report

By:

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**INTERNATIONAL CIVIL ENGINEERING PROGRAM**

**FACULTY OF ENGINEERING**

**UNIVERSITAS ATMA JAYA YOGYAKARTA**

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**APPROVAL**

Final Project

**PREDICTION OF LIQUEFACTION POTENTIAL USING DEEPSOIL V7  
PROGRAM**

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**APPROVAL**

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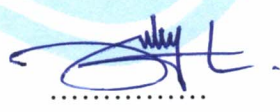
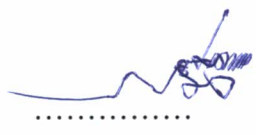



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## DECLARATION

Author, the one whom signed below:

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Yogyakarta, July 2020

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Vincent Elian

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Finally, please by sorry if there is any error or omission in this report. I as the writer of this report realize there are lots of mistake and need lots of improvement in the future. Any suggestion and critic will be accepted.

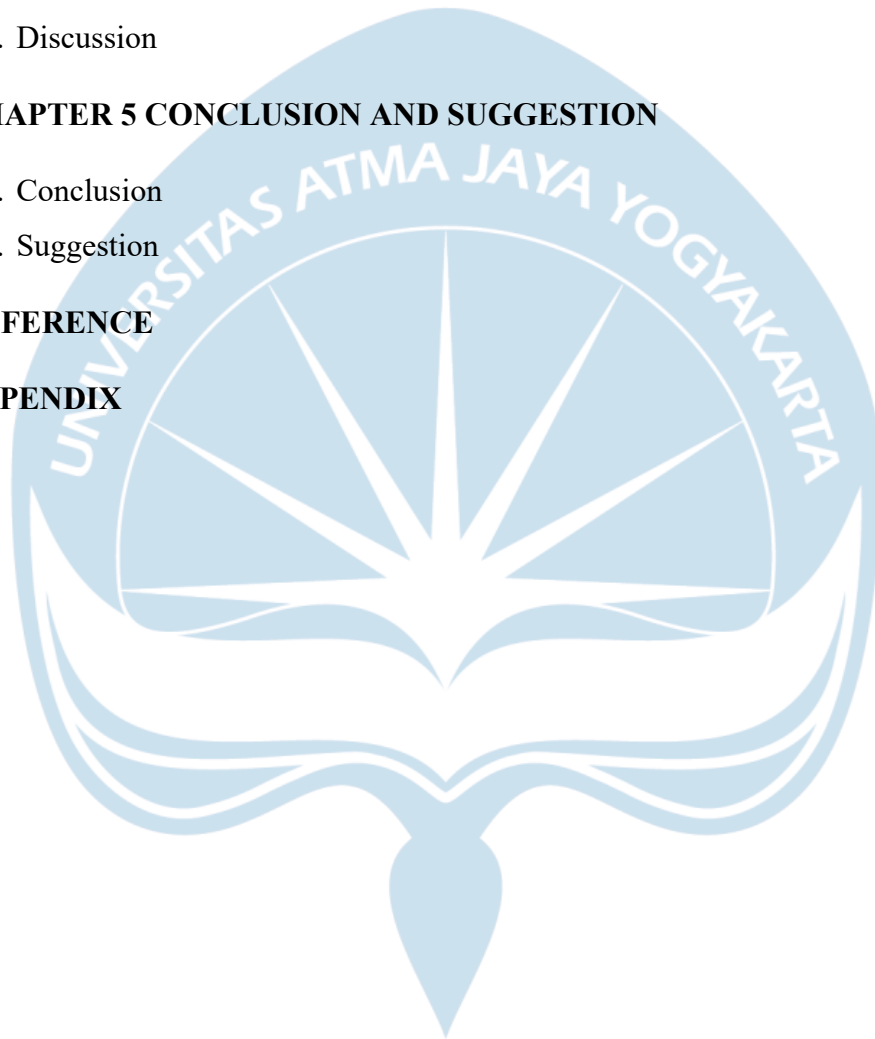
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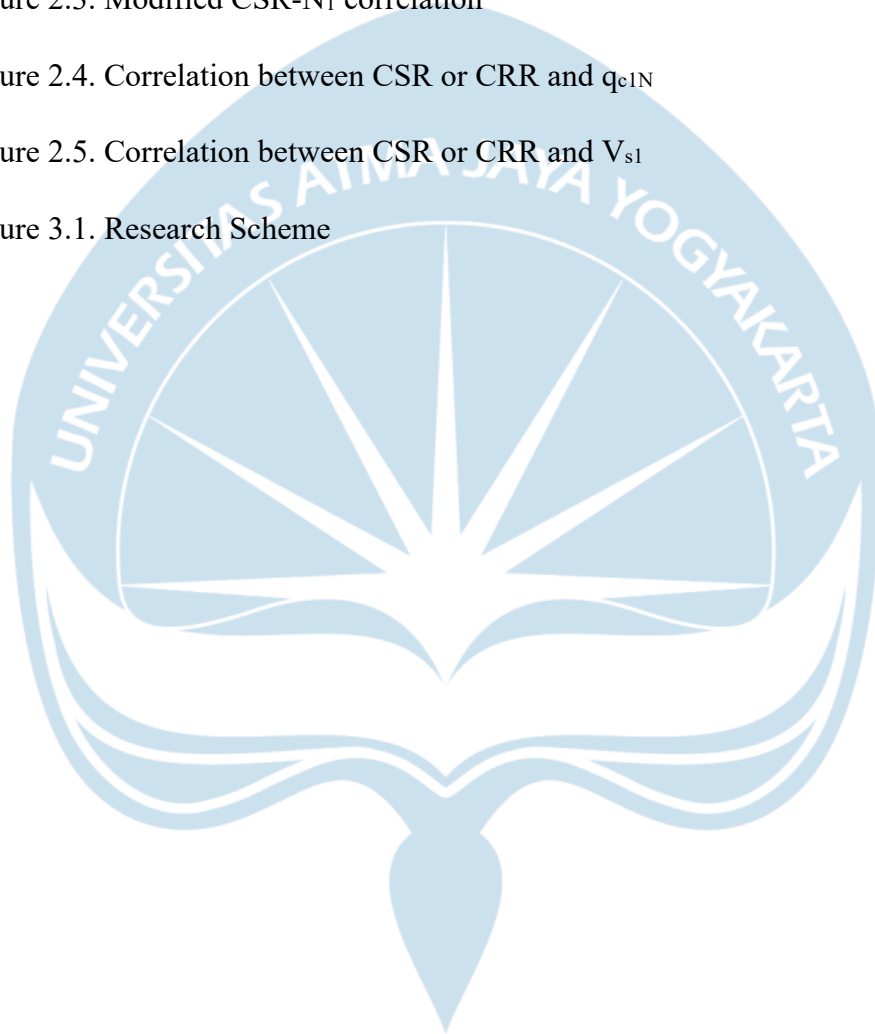
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## ABSTRACT

**PREDICTION OF LIQUEFACTION POTENTIAL USING DEEPSOIL V7 PROGRAM**, Vincent Elian, Student ID Number 161316579, year of 2020, Geotechnical Engineering, International Civil Engineering Program, Department of Civil Engineering, Universitas Atma Jaya Yogyakarta.

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Liquefaction is phenomenon where soil suddenly behave like liquid, loss all of its strength and stiffness due to monotonic or cyclic loading. Until now, the only way to overcome liquefaction is to use liquefaction prevention method, either by soil improvement or liquefaction resistant structure. In this project, the objective to perform liquefaction potential prediction using the help of Deepsoil v7 program. For liquefaction potential analysis, soil from Moss Landing area in Monterey Bay is observed. For the loading, 1989 Loma Prieta Earthquake used in this analysis. From the analysis result, excess pore water pressure ( $r_u$ ) is used to determine whether soil subjected to liquefaction or not. When  $r_u \geq 0.7$ , soil considered to be liquified. Most of the soil in Moss Landing area subjected to liquefaction.

**Keywords: Liquefaction Potential, Deepsoil v7, SPT-N value**