UNIVERSITY OF TWENTE.

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To the Department Head of the Computer Science Department
The Universität der Bundeswehr München
85577 Neubiberg, Mnchen, Duitsland

Subject: *Application letter to the University Professorship (W3) in ICT Threat and Malware Analysis.*

Dear Sir or Madam,

I am writing to apply for the position of University Professorship (W3) in *ICT Threat and Malware Analysis* beginning 2018, as advertised on the Universitt der Bunderswehr Mnchen (UniBwM) website. I am currently a doctoral candidate at the University of Twente, the Netherlands, and fully expect to complete my Ph.D. degree requirements by April 2017. It was already offered me a postdoctoral position to stay in the same university after achieved the Doctor degree, which I intend to accept till I get a professorship position in a center of excellence in research. I am extremely interested in obtaining a professorship position at the UniBwM, as its Cyber Defence Research Center (CODE) promises to have a stellar reputation worldwide. I believe that my academic training, teaching and advising experience prepare me to be an effective researcher and instructor in your department.

MY DOCTORAL RESEARCH is conducted under the direction of Prof. Aiko Pras, and target the investigation of a serious Cyber Threat to any system in the Internet, called Booters. Booters are websites that publicly offer Distributed Denial of Service (DDoS) attacks to-and-against anyone as a paid service. This websites are involved in most of the DDoS attacks, specially those called mega attack (greater than 100 Gb/s of traffic). Besides my multidisciplinary investigation, which includes the technical, legal, ethical and economical aspects, in my research, I developed a methodology to find the most comprehensive list of Booter websites. The outcome of this methodology is weekly updated and shared at `http://booterblacklist.com`. It was already downloaded by almost one thousand people worldwide. Additionally, I am developing one of the largest open databases with DDoS attacks traces and fingerprints (DDoSDB avaliable at `http://ddosdb.org`). Such database enables an earlier detection/mitigation and comparison of attacks. Together with DDoSDB I proposed a methodology that enable companies to share their attacks traces assuring the privacy of their clients. Among the list with dozens collaborators I highlight Booking.com, the Dutch public broadcasting system (NPO), and the Dutch National Foundation Manager of ISPs (NBIP). All the achievements during my PhD also gave me the opportunity to advise both the Japanese Ministry of Internal Affairs & Communications and the Dutch Ministry of Security & Justice on the topic of Cyber Security and DDoS attacks.

During the last couple of years I had two papers on Botnet analysis, named Kelihos.B and Carna Botnet (which produced the Internet Census 2012). I also had change to guide several bachelor students on a Honeypot assignment which investigate the operation of dozens Malwares. Beside my experience with DDoS attacks, Botnets, and Malwares, I am convinced that I can address any security problem in ICT.

MY TEACHING EXPERIENCE started right after I achieved my master degree in computer science. I had the opportunity to teach for two semesters the courses Digital Systems, Computer Networks, and Network Management at the University of Santa Cruz do Sul, Brazil. In the last two years I also had the great opportunity to be guest lecturer on the topic of Cyber Security, Cyber Defense, and Network Management. I have developed confidence and passion in teaching any topic related to network security. The feedback of students/attendees [1] gives me the certainty that I have a great potential to pursue an academic career.

MY ADVISING EXPERIENCE. I advised in total twenty five students: five to achieve the Master degree, five to the Bachelor degree, and fifteen supporting bachelor minor assignments, such as design projects, literature studies, and honeypot assignment. I would like to highlight that: (1) half of the master and bachelor students had papers accepted in international conferences and decided to follow towards the next academic degree, (2) one got the best paper award and (3) one got a renowned Dutch national prize (KIVI/Defensie & Veiligheid). This evidences emphasis my ability to lead people towards research of excellence.

I would enjoy discussing this position with you at any moment. In the meantime, I am enclosing my Curriculum Vitae for your analysis. If you require any additional materials or information, I am happy to supply it. Thank you very much for your consideration.

Yours faithfully,

José Jair Cardoso de Santanna

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[1] Voluntarily feedbacks of students/attendees are available at `http://bit.ly/presentation_evaluation`.