

7 December 2017

To Whom It May Concern:

It is my pleasure to write in support of Noah Jacobsen's application for a research scientist position at the Human Language Technology Center of Excellence at Johns Hopkins.

I first met Noah in the spring of 1999 when, as a junior electrical engineering undergraduate at Cornell, he took my course on discrete-time signals, systems, and transforms (EE 302). Noah earned an A- in the course with a final average in the top quarter of a class consisting of about 130 students. During that semester and the two that followed, I discussed Noah's academic and career ambitions with him extensively, and I got to know him well.

Noah's academic record at Cornell was solid, although his GPA didn't tell half the story about him. Noah was a thoughtful and perceptive student. He had penetrating insight and a quiet, unassuming air about him that belied his intellectual depth. His questions were always well thought out and went straight to the heart of the matter. He was anything but a "cookbook problem-solver." He was careful and deliberate and unwilling to apply higher-level technical tools that he didn't understand thoroughly. He was an efficient time manager and worked hard, but the breadth of his extracurricular interests and activities — particularly his musical pursuits and his Executive Board position with the Cornell Concert Commission — made it surprising to me that he was as successful as he was in his courses. If electrical engineering had been Noah's sole focus at Cornell, I am confident that his grades would have been among the best in his EE class.

Noah is creative, and not just in a technical sense. He is an accomplished musician and composer and does some visual art on the side. He is widely read and communicates his ideas well both orally and in writing. Noah's natural creative ability was among his strongest selling points as a potential Ph.D. student, and in the fall of 1999 I wrote recommendations in support of his applications to graduate schools. His interpersonal skills when he was an undergraduate also impressed me. He got along well with everyone, and in a group context he was always open to diverse points of view. His Cornell Concert Commission work, in particular, required major diplomatic skill on his part, and the people I've talked with have given him rave reviews for working out compromises and optimizing conflicting objectives.

Noah had significant research experience during his time here. His fall 1998 Engineering Co-Op job assignment was in a Cornell research laboratory. His supervisor there spoke highly of Noah. Noah's research experience cemented his ambition to pursue an academic research career. His specific research interests — which lay in the general area of systems, communications, and signal processing — were somewhat unfocused when he applied to graduate programs, but this was not necessarily a bad thing in my view.

Noah ended up receiving his Ph.D. in ECE from UCSB in 2005. I spoke to him briefly shortly after he graduated and was testing the academic job market, but I mostly lost track of him after that. I heard from him occasionally, enough to learn that he spent over five years as a researcher at Alcatel Lucent and taught as an adjunct during and after that time at Polytechnic University of New York and Columbia. I was happy to hear that he had kept up his music and had formed a band after moving to California to launch his startup, Aquerre Technologies.

I have never understood exactly what Noah's goals are with Aquerre, but I know that the company's work relies on techniques from machine learning and artificial intelligence. That Noah's interests have slid in that direction doesn't surprise me. His Ph.D. work was in digital communications, and he has sharpened his mathematical chops over the years since he graduated from Cornell. This last observation stems from first-hand experience. A few years ago, Noah expressed interest in reviewing a monograph I have been writing at least partly to accompany a junior-level course I teach at Cornell on the mathematics of signal and system analysis. The course covers topics usually reserved for more advanced courses, such as modular arithmetic and cryptography, orthogonal expansions in Hilbert space, and the singular value decomposition. Noah provided me with insightful comments, delivered in his customary understated way, that displayed his command of the material beyond the level of the monograph.

While I am unable to supply you with more detailed information about Noah's post-Ph.D. activities, I hope you find my input useful. My sense is that Noah is technically strong and has developed as an applied scientist about as I expected him to when I wrote graduate school recommendations for him back in 1999. I trust you will give his application careful consideration.

Sincerely,

David F. Delchamps
Associate Professor