Nabih was born on May 29th, 1944, in Cairo, Egypt, to Fouad and Amira Youssef. In his youth, he enjoyed sports, including swimming, basketball, and volleyball, and was an active member of the YMCA. At the age of 16, Nabih decided to pursue engineering, in part because of his fascination with the aerospace advancements of the early 1960s. Following the family's tradition, he attended College De La Salle, and then studied at Cairo University under faculty members returning from studies at Cal-Tech, MIT, and Cambridge. It was at Cairo University that his lifelong exploration of structural engineering began. Nabih completed his bachelor's degree in structural engineering, with distinction, from Cairo University in 1967.

After immigrating to the United States in 1969, he joined the renowned architectural firm Welton Becket. During his time at Becket, Nabih worked on the Hyatt Regency and Theme Tower in Dallas, Texas, the Moscow World Trade Center, the Washington D.C. Convention Center, and the 1975 re-design of the Olive View Hospital, whose partial collapse during the 1971 San Fernando earthquake cemented Nabih's focus on Seismic Engineering. While at Becket, he received a master's degree from California State University Los Angeles, and then a postgraduate degree in earthquake engineering from the University of California Los Angeles. In 1982, Nabih joined A.C. Martin Partners in Los Angeles, where he led its engineering division. The Manu-Life Tower, Beverly Hills Civic Center, Downtown Los Angeles YMCA, and Home Savings Tower were some of Nabih's signature projects during this period.

In 1989, Nabih launched Nabih Youssef & Associates. He steered the beginning firm through the real estate recession of the late 1980's, on to become an internationally recognized firm, with projects around the world. Nabih pioneered the concepts of performance based seismic design, and of base isolation, a refinement of the idea that buildings should be built to move with earthquakes, not resist them. Nabih then incorporated base-isolation into the design of the Cathedral of Our Lady of the Angels.

Nabih and NYA would go on to work on Los Angeles City Hall, the J. Paul Getty Villa, the Cleveland Museum of Art Expansion, the Skirball Cultural Center, Dodger Stadium, Los Angeles Coliseum, the Broad Museum, Stanford Hospital, and countless other important structures. NYA also worked extensively on campus buildings at USC, UCLA, and Cedars-Sinai Medical Center. Nabih helped lead many engineering organizations and committees. He was also involved in the design and construction of many community focused and church structures.

On April 28, 1974, Nabih married Isis at Saint Mark Coptic Orthodox Church in Los Angeles. Thereafter, Nabih and Isis welcomed three children, Michelle, John Paul, and Christine. In 2007, Michelle married Geoffrey Forgione. Four years later, John Paul married Caroline. Both couples honoring and sharing the same wedding anniversary as Nabih and Isis. In late 2011, Nabih became a grandfather when Michelle and Geoff welcomed Colette Marie Forgione. She would be followed in 2015 by Nadia Marie Forgione, who was named in honor of Nabih's late sister.

Despite an extremely busy professional and personal life, he found time for important civic and Christian causes. Nabih was an adjunct professor at USC and SCI-Arc, and was a longtime member of the California Club, the Jonathan Club, and the Downtown Breakfast Club, for the leaders of downtown. He was very active at Saint Peter & Saint Paul Coptic Orthodox Church in Santa Monica, where he served on the Board and devoted countless hours to the youth. He also served on the Board of Saint Mark Church. He was the head of Sunday School at both churches. He served on the board of Marymount High School, the Junior Blind, and the LA Conservancy. In 2002, he established the Coptic Educational Foundation to allow young people to pursue brighter futures. Nabih also was a founding board member of the Saint Athanasius & Saint Cyril Coptic Orthodox (ACTS) Theological School.

Nabih was preceded in the next life by his parents, Fouad and Amira Youssef, his brothers Adel, George, and Cherif, as well as his sister Sr. Reine.